

GENERAL NOTES

- 1.0 ALL DIMENSIONS SHOWN ON THE DRAWINGS ARE MILLIMETERS UNLESS NOTED
- 1.1 IN CASE OF CONFLICT BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS THE MOST RIGID REQUIREMENTS SHALL GOVERN.
- 2.0 FOUNDATION NOTES
- 2.1 THE GEOTECHNICAL ANALYSIS FOR THIS PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AWARDED THE WORK, DESIGN VALUES USED IN THE STRUCTURAL ANALYSIS OF THE BUILDINGS HEREIN INDICATED HAVE BEEN ASSUMED AND SHALL BE CONFIRMED AND VERIFIED AS PART OF THE GEOTECHNICAL INVESTIGATION. VALUES WHICH DO NOT MEET THE REQUIREMENTS INDICATED ON THE BASIS OF DESIGN SHEET SHALL BE IMMEDIATELY PROJUNE TO THE ATTENTION OF THE ENGINEER-OF-RECORD FOR CONSIDERATION AND DETERMINATION ON THE NEXT APPROPRIATE COURSE OF ACTION. THE DESIGN IS BASED ON AN ASSUMED
- 2.2 EXCAVATIONS FOR FOOTINGS SHALL HAVE THE SIDES AND BOTTOMS TEMPORARILY LINED WITH 0.15mm POLYETHYLENE IF PLACEMENT OF CONCRETE DOES NOT OCCUR WITHIN 24 HRS OF THE EXCAVATION OF THE FOOTING.
- 2.3 NO FOOTINGS OR SLABS SHALL BE POURED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, ICE OR LOOSE MATERIAL. FROST DEPTH ASSUMED TO BE 950MM

 2.4 ALL SLAB-ON-GRADE. TRENCH BOTTOMS AND OTHER ON-GRADE INTERIOR HORIZONTAL SUBFACES SHALL BE PLACED OVER A 100mm #57 STONE WATER BARRIER PLACED ON SUBGRADE PROPERLY PREPARED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. (UNO).
- 2.5 IF UNDERMINING OF FOOTINGS OCCURS, FILL VOIDS WITH 28MPa CONCRETE. DO NOT ATTEMPT TO REPLACE AND RECOMPACT SOIL.
- 3.1 CONCRETE SHALL BE NORMAL WEIGHT WITH A MINIMUM COMPRESSIVE STRENGTHS (fc) AT 28 DAYS OF 28 MPs. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. ENTRAIN AIR TO PRODUCE TOTAL AIR CONTENT ACCORDING TO THE SPECIFICATIONS FOR CONCRETE EXPOSED TO FREEZING TEMPERATURES.
- 3.2 NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.
- 3.3 MIXING, TRANSPORTING AND PLACING OF CONCRETE SHALL CONFORM TO AC1-301-89.
- ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE (ACI) 318M MANUAL (metric), "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AND REQUIREMENTS OUTLINED IN THE CONTRACT SPECIFICATIONS, WHEN THERE IS A CONFLICT BETWEEN ACI AND THE SPECIFICATIONS, THE MORE STRINGENT SHALL GOVERN.
- 3.5 CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615M-96a, GRADE 60, CONCRETE HERINFORCEMENT I BARS SHALL CONTROLL OF A 10 AS 15M AS 15M-998, CHADE REINFORCING BARS SHALL NOT BE TACK WELDED, WELDED, HEATED OR CUT, UNLESS INDICATED ON THE CONTRACT DOCUMENTS. ALL LAP SPLICES SHALL BE CLASS "B" U.N.O.
- 3.6 SEE SPECIFICATIONS FOR ALL WATERPROOFING/DAMPPROOFING REQUIREMENT.
- 3.7 ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED, AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318, AND THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI SP-66, LATEST EDITION.
- 3.8 PROVIDE CONCRETE POUR STOPS OR FORMED AS REQUIRED FOR INSTALLATION OF
- 4.0 STRUCTURAL STEEL
- 4.1 STRUCTURAL STEEL ROLLED SHAPES AND PLATES SHALL CONFORM TO THE MATERIAL INFORMATION SCHEDULE, DIMENSIONS AND PROPERTIES SHALL BE IN ACCORDANCE TO ASTM A36.
- 4.2 DETAILING OF STRUCTURAL STEEL CONNECTIONS MUST BE CONSISTENT WITH DETAILING OF STRUCTURAL STEEL CONNECTIONS MOST DE CONSISTENT WITH RECOGNIZED, PUBLISHED METHODS SUCH AS IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9th EDITION; "ENGINEERING FOR STEEL CONSTRUCTION", OR "VOLUME II CONNECTIONS MANUAL OF STEEL CONSTRUCTION".
- 4.3 THE CODE OF STANDARD PRACTICE OF AISC 9TH EDITION ASD IS AMENDED SUCH THAT THE FABRICATOR/DETAILER IS RESPONSIBLE FOR THE DESIGN AND DETAILING OF ALL CONNECTIONS.
- 4.4 CALCULATIONS FOR DETAILS MUST SHOW A RATIONAL ANALYSIS OF A COMPLETE LOAD PATH, INCLUDING LOCAL EFFECTS ON WEBS, FLANGES, ETC. OF THE CONNECTED MEMBERS AND THE DEVICES (PLATES, SEATS, BRACKETS, BOLTS, WEBS, ETC) AFFECTING ALL CONNECTIONS. FAILURE TO SUBMIT SUCH CALCULATIONS FOR REVIEW CONCURRENT WITH SHOP DRAWING ERECTION PLANS AND DETAILS WILL BE CAUSE FOR REJECTION OF THAT SUBMITTAL.
- 4.5 STRUCTURAL STEEL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN" AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" LATEST EDITIONS.
- 4.6 WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE AWS D1.1, ELECTRODES FOR SHOP AND FIELD WELDS SHALL BE CLASS E70XX. ALL WELDING SHALL BE DONE BY QUALIFIED, CERTIFIED WELDERS PER THE ABOVE STANDARD.
- 4.7 SHOP AND FIELD TESTING OF WELDS AND BOLTS SHALL BE AS OUTLINED IN THE SPECIFICATIONS.
- 4.8 ALL FILLET WELDS SHALL BE A MINIMUM OF 5mm UNLESS NOTED OTHERWISE.
- 4.9 THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
- 4.10 ALL STRUCTURAL STEEL SHALL BE PRIMED AS PER THE SPECIFICATIONS.

MINIMUM LAP SPLICES OF REINFORCING BARS IN TENSION (PER ACI 318-89M)							
	f'c = 28.0 f	MPa CONCRE	ETE				
CENTER TO	(TOF	BARS)	(OTI	HER BARS)			
CENTER BAR BAR SPACING SIZE	LESS THAN 4db	4db OR MORE	LESS THAN 4db	4db OR MORE	4db		
#10	460	460	410	410	40		
#13	660	610	510	480	50		
#16	1020	760	790	580	60		
#19	1450	910	1120	710	80		
#22	1960	1090	1500	840	90		
#25	2590	1450	1980	1120	100		
#29	3280	1830	2510	1420	110		
#32	4140	2340	3200	1780	130		
#36	5080	2840	3910	2180	140		

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NOTES:

- LAP SPLICES ABOVE ARE IN MILLIMETERS UNO. YIELD STRENGTH OF REINFORCEMENT, fy, IS 400MPa (LAP SPLICE LENGTH IS IN MILLIMETERS).
- CONCRETE IS NORMAL WEIGHT (2400Kg/m)
- TOP BAR INDICATES HORIZONTAL REINFORCEMENT WHICH IS PLACED ABOVE 300mm OR MORE OF FRESH CONCRETE.
- OR MORE OF FRESH CONCRETE.

 STRAIGHT DEVELOPMENT LENGTH OF AN UNLAPPED BAR IS EQUAL TO VALUE FROM TABLE DIVIDED BY 1.3.

 6. CATEGORY FOR BARS SPACED LESS THAN 4d, OR ON CENTER CORRESPONDS TO CATEGORY 1 IN THE CRSI HANDBOOK WHEREAS FOR BARS SPACED 4d, OR MORE ON CENTER CORRESPOND TO CRSI CATEGORY 5.

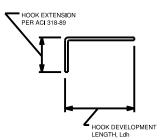
STANDARD HOOKS IN TENSION PER (ACI 318-89)						
HOOH	CDEVELOPME Ldh (mm)	NT LENGTH				
BAR S I ZE	f'c 20 MPa	f'c 28.0 MPa				
#10	230	180				
#13	280	250				
#16	360	300				
#19	430	380				
#22	480	430				
#25	560	480				
#29	640	560				
#32	710	610				
#36	790	690				
	·					

- 1. CONCRETE IS NORMAL WEIGHT CONCRETE.
- 2. BAR YIELD STRENGTH, fy = 400 MPa. 3. SIDE COVER REQUIREMENTS OF ACI SECT. 12.5.3.2 ARE ASSUMED
- TO NOT BE MET.
- 4. TIE OR STIRRUP REQUIREMENTS OF ACI SECT. 12.5.3.2 ARE
- ASSUMED TO NOT BE MET. INFORCEMENT IS NOT TAKEN.

 5. REDUCTION FOR EXCESS REINFORCEMENT IS NOT TAKEN.

 6. HOOK DEVELOPMENT LENGTH IS VALID FOR 180° HOOKS ALSO.

 7. FOR 35 MPa CONCRETE, USE VALUES FOR 30 MPa



CONCRETE COVER SCHEDULE

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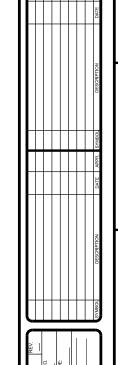
MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL BE AS FOLLOWS: (SEE ACI 318-89M. SECTION 7.7 FOR CONDITIONS NOT NOTED), DIMENSIONS FOR BAR PLACEMENT GIVEN IN SECTIONS AND DETAILS SHALL SUPERCEDE MINIMUM COVER REQUIREMENTS GIVEN HERE, DIMENSIONS ARE IN min.

G

FOOTINGS (EARTH FORMED)		75
COLUMNS / PIERS		40
GRADE BEAMS OR SLAB TURNED D	OOWN EDGES:	
TOP BOTTOM (EARTH FORMED) SIDES (EARTH FORMED) SIDES (BOARD FORMED)	#16 BAR & SMALLER #19 THRU #36 BAR	40 75 75 40 50
SLABS-ON-GRADE (NO EXPOSURE SLABS-ON-GRADE (EXPOSURE TO	,	20 40
UTILITY TUNNEL WALLS, RETAININ (NO SURFACES SHALL BE EARTH EARTH SIDE AND FRONT SIDE (EX	FORMED)	

PROVIDE STANDARD BAR CHAIRS AND SPACERS AS REQUIRED TO MAINTAIN CONCRETE PROTECTION SPECIFIED.

#16 BAR AND SMALLER #19 THRU #36 BAR



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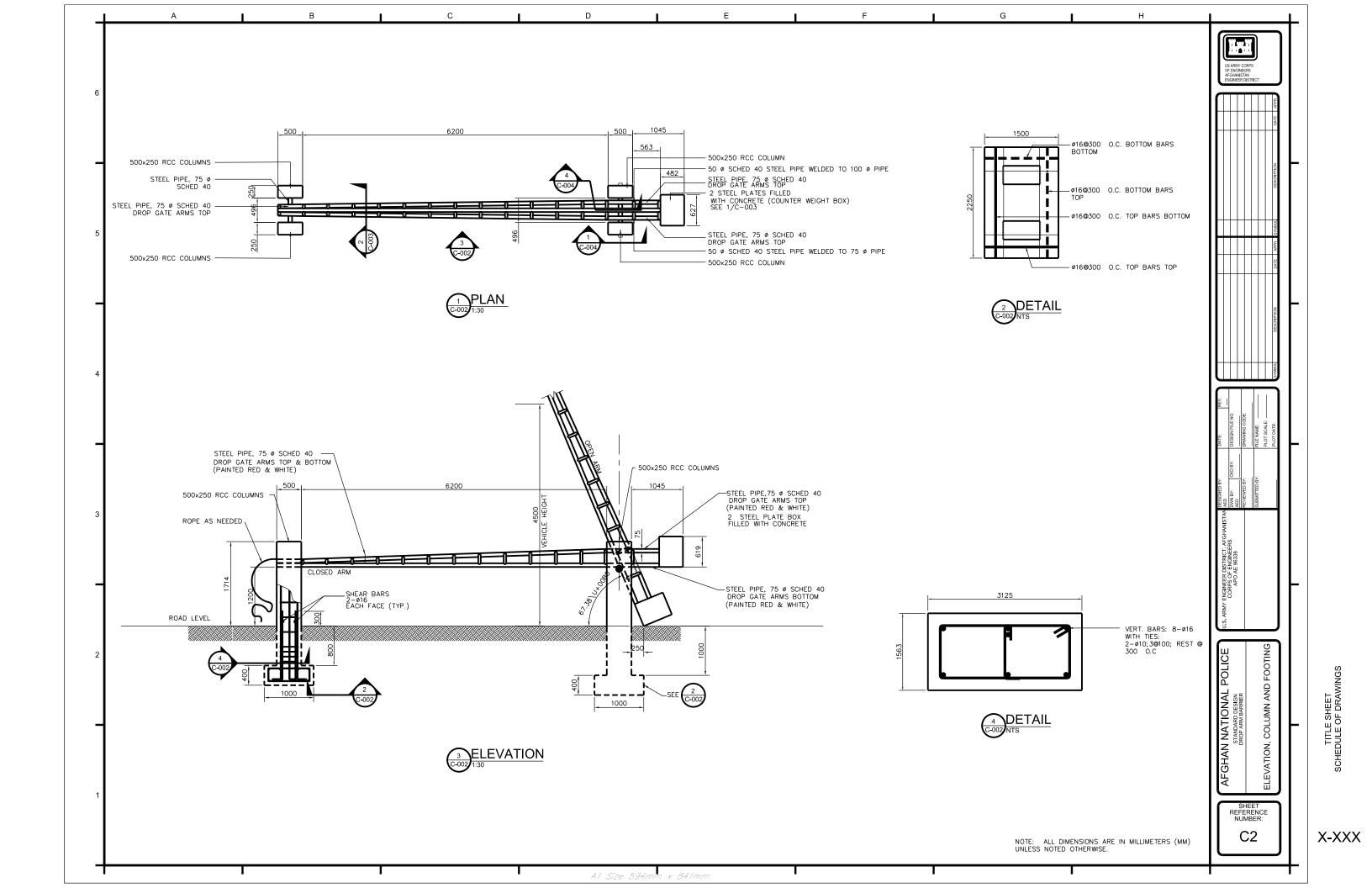
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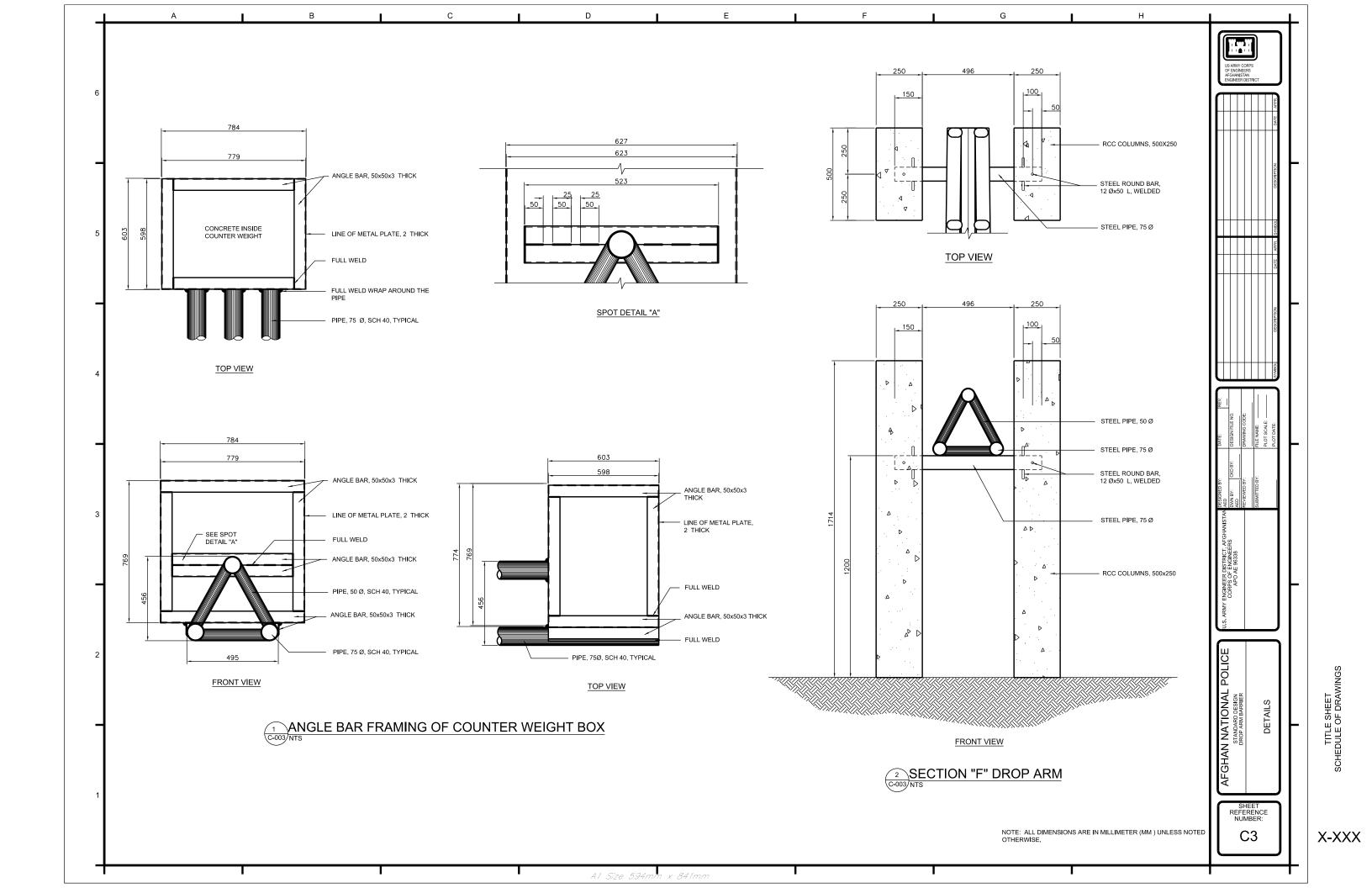
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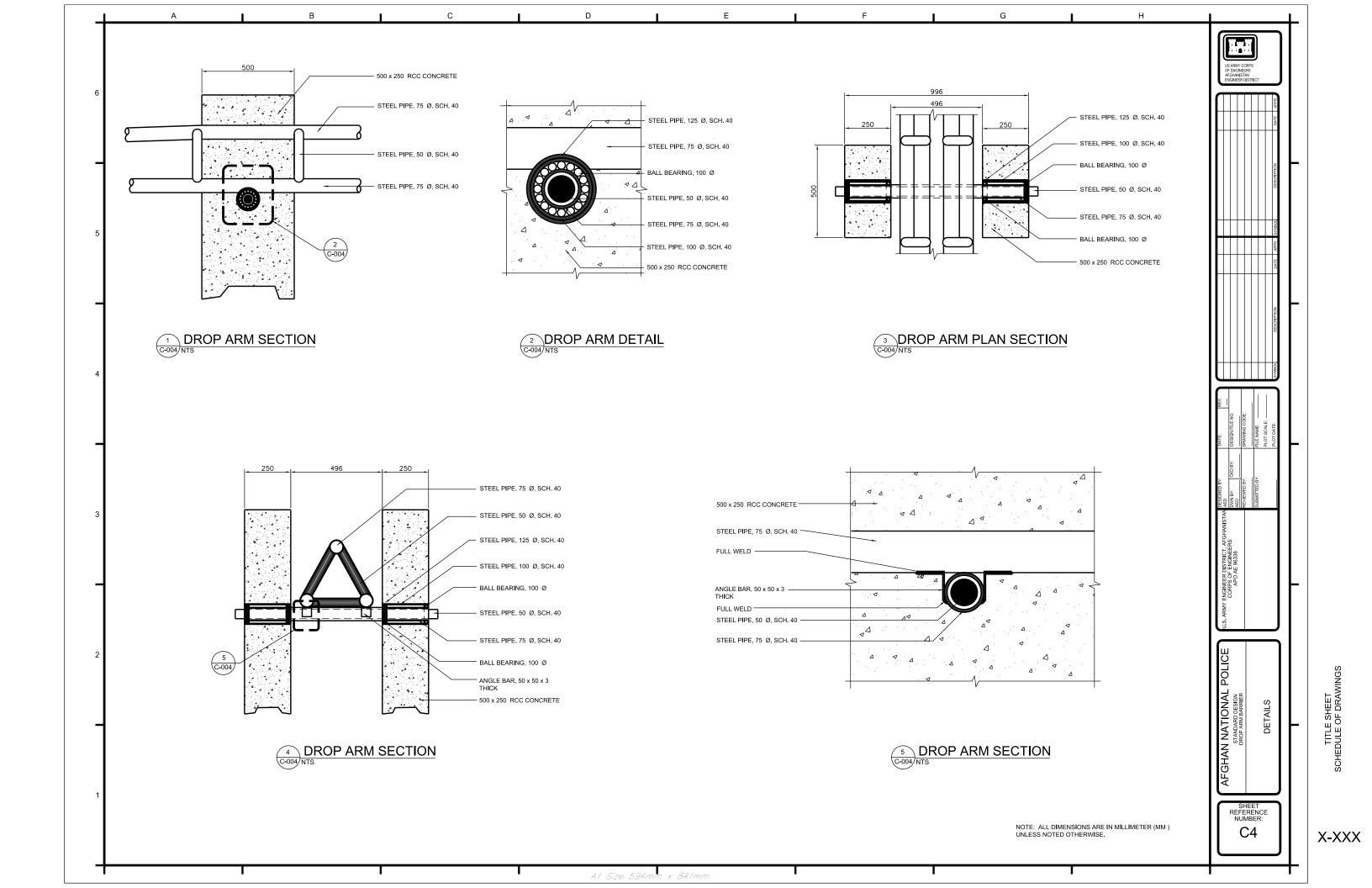
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TITLE SHEET SCHEDULE OF DRAWINGS

X-XXX







AFGHAN NATIONAL POLICE STANDARD BUILDING DESIGNS

ENTRY CONTROL POINT CANOPY

SHEET INDEX

COVER SHEET

GENERAL NOTES

BASIS OF DESIGN

MATERIAL SCHEDULES

FOUNDATION / SLAB / ROOF FRAMING PLAN

FLOOR AND ROOF PLANS

CANOPY PLAN, ELEVATIONS, AND SECTIONS



				APR)
				DATE	
				DESCRIPTION	
				SYMBOL	,

	DESIGNED BY: DATE:	DATE:
Michael Bakar Ir Inc	Sar	09-30-09
Microsoft Duker VI., III. A unit of Michael Baker Corporation	DWN BY:	SUBMITTED BY:
Airside Business Park 100 Airside Drive	SQF	BAKER
Moon Township PA 15108	CHK BY:	FILE NO.:
www.mbakercorp.com	SOr	ANPSDG-001XXX

AFGHAN NATIONAL POLICE STANDARD DESIGN ENTRY CONTROL POINT CANOPY COVER SHEET

WIDTH

WITH

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GENERAL NOTES

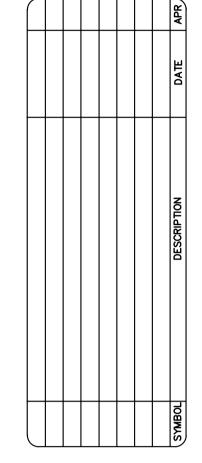
- 1.0 THIS PROJECT HAS BEEN DESIGNED FOR THE WEIGHTS AND MATERIALS INDICATED ON THE DRAWINGS AND FOR THE LIVE LOADS INDICATED IN THE DESIGN DATA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE PROPER DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGING, BRACING, SHEETING AND SHORING, ETC.
- 1.1 COORDINATE THESE DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND CIVIL DRAWINGS. ALL DIMENSIONS SHOWN ON THE DRAWINGS ARE MILLIMETERS UNLESS NOTED OTHERWISE.
- 1.2 THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL FLOOR AND ROOF OPENING SIZES AND LOCATIONS, EQUIPMENT PAD SIZES AND LOCATIONS, ANCHOR BOLT LAYOUTS, ETC WITH EQUIPMENT SELECTED. THE CONTRACTOR SHALL MAKE ANY REQUIRED MODIFICATIONS AT NO ADDITIONAL COST.
- 1.3 THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR SLEEVES, CURBS, INSERTS OR OPENINGS, ETC. NOT HEREIN INDICATED.
- 1.4 NOT USED
- 1.5 SLAB OPENINGS SMALLER THAN 250mm DIA TO BE CORE DRILLED IN FIELD UNO. SEE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR LOCATIONS OF THESE OPENINGS.
- 1.6 WORK NOT INCLUDED ON THE DRAWINGS BUT IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES ELSEWHERE ON THE DRAWINGS SHALL BE REPEATED.
- 1.7 IN CASE OF CONFLICT BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS THE MOST RIGID REQUIREMENTS SHALL GOVERN.
- 1.8 COORDINATE FINISHED FLOOR DATUM ELEVATION 0.0m WITH THE CIVIL DRAWINGS.
- 2.0 FOUNDATION NOTES
- THE GEOTECHNICAL ANALYSIS FOR THIS PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AWARDED THE WORK. DESIGN VALUES USED IN THE STRUCTURAL ANALYSIS OF THE BUILDINGS HEREIN INDICATED HAVE BEEN ASSUMED AND SHALL BE CONFIRMED AND VERIFIED AS PART OF THE GEOTECHNICAL INVESTIGATION. VALUES WHICH DO NOT MEET THE REQUIREMENTS INDICATED ON THE BASIS OF DESIGN SHEET SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER—OF—RECORD FOR CONSIDERATION AND DETERMINATION ON THE NEXT APPROPRIATE COURSE OF ACTION.
- 2.2 SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS TO THOSE OUTLINED IN THE GEOTECHNICAL INVESTIGATION FOR EXCAVATION AND PREPARATION OF THE FOUNDATION AND THE SLAB ON GRADE SUBGRADE INCLUDING COMPACTION PROCEDURES.
- 2.3 EXCAVATIONS FOR FOOTINGS SHALL HAVE THE SIDES AND BOTTOMS TEMPORARILY LINED WITH 0.15mm POLYETHYLENE IF PLACEMENT OF CONCRETE DOES NOT OCCUR WITHIN 24 HRS OF THE EXCAVATION OF THE FOOTING.
- 2.4 FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE GENERAL CONTRACTOR BEFORE FURTHER CONSTRUCTION IS ATTEMPTED. SEE PROJECT SPECIFICATIONS.
- 2.5 NO FOOTINGS OR SLABS SHALL BE POURED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, ICE OR LOOSE MATERIAL. FROST DEPTH ASSUMED TO BE 800MM
- 2.6 ALL SLAB-ON-GRADE, TRENCH BOTTOMS AND OTHER ON-GRADE INTERIOR HORIZONTAL SURFACES SHALL BE PLACED OVER A 0.15mm VAPOR BARRIER OVER A 100mm #57 STONE WATER BARRIER PLACED ON SUBGRADE PROPERLY PREPARED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. (UNO)
- 2.7 SEE PLUMBING, ELECTRICAL & CIVIL DRAWINGS FOR REQUIRED UNDERSLAB UTILITIES.
- 2.8 SEE ARCHITECTURAL DRAWINGS FOR ALL WATERPROOFING DETAILS AND MATERIALS.
 2.9 IF UNDERMINING OF FOOTINGS OCCURS, FILL VOIDS WITH 15MPa CONCRETE. DO NOT ATTEMPT TO REPLACE AND RECOMPACT SOIL.
- 3.0 <u>CONCRETE</u>
- 3.1 CONCRETE SHALL HAVE THE UNIT WEIGHT AND THE MINIMUM COMPRESSIVE STRENGTHS (f'c) AT 28 DAYS AS SHOWN IN THE CONCRETE MATERIALS SCHEDULE ON THE BASIS OF DESIGN SHEET. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. ENTRAIN AIR TO PRODUCE TOTAL AIR CONTENT ACCORDING TO THE SPECIFICATIONS FOR CONCRETE EXPOSED TO FREEZING TEMPERATURES (EXTERIOR FOOTINGS, SLAB TURNDOWNS, EXTERIOR SLABS AND SLABS—ON—GRADE, EXTERIOR RETAINING WALLS, AND EXTERIOR GRADE BEAMS.)
- 3.2 GROUT FOR BASE PLATES SHALL BE NON—SHRINKABLE GROUT AND SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH AT 28 DAYS OF 35MPa, UNLESS NOTED OTHERWISE.
- 3.3 NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.
- 3.4 MIXING, TRANSPORTING AND PLACING OF CONCRETE SHALL CONFORM TO AC1-301-89
- 3.5 ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE (ACI) 318M MANUAL (metric), "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AND REQUIREMENTS OUTLINED IN THE CONTRACT SPECIFICATIONS. WHEN THERE IS A CONFLICT BETWEEN ACI AND THE SPECIFICATIONS, THE MORE STRINGENT SHALL GOVERN.
- 3.6 CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 20mm x45 DEGREE CHAMFER UNO.
- 3.7 CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615M-96a, GRADE 60, REINFORCING BARS SHALL NOT BE TACK WELDED, WELDED, HEATED OR CUT, UNLESS INDICATED ON THE CONTRACT DOCUMENTS. ALL LAP SPLICES SHALL BE CLASS "B" U.N.O.
- 3.8 HORIZONTAL FOOTING AND HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS AND SHALL HAVE 90 DEGREE BENDS AND EXTENSIONS, OR CORNER BARS OF EQUIVALENT SIZE LAPPED WITH A CLASS B TENSION SPLICE AT CORNERS AND INTERSECTIONS. TOP BAR CRITERIA SHALL APPLY IF 300mm OR MORE OF FRESH CONCRETE IS PLACED BELOW BAR.
- 3.9 SLABS-ON-GRADE SHALL HAVE CONSTRUCTION JOINTS OR CRACK CONTROL JOINTS AS SHOWN ON THE DRAWINGS. CONSTRUCTION JOINTS CAN BE USED AT CONTROL JOINT LOCATIONS AT CONTRACTORS OPTION. SEE SLAB PLANS & JOINT DETAILS FOR ADDITIONAL INFORMATION. FOR AREAS NOT SHOWN ON DWGS, THE MAXIMUM SPACING OF CONSTRUCTION / CRACK CONTROL JOINTS SHALL BE 4800 mm

- 3.10 ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED, AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318, AND THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES". ACI 315, LATEST EDITION.
- 3.11 SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING AND PLACEMENT, SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION.
- 3.12 NOT USED.
 3.13 ALL DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING, UNLESS N
- 3.13 ALL DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING, UNLESS NOTED OTHERWISE ON DRAWINGS.
- 3.14 ADDITIONAL BARS SHALL BE PROVIDED AROUND ALL FLOOR AND WALL OPENINGS AS SHOWN ON THE DWGS.
- 3.15 SEE ARCHITECTURAL DRAWINGS FOR TYPE AND LOCATION OF ALL FLOOR FINISHES.
 3.16 THE CONTRACTOR SHALL COORDINATE ADDITIONAL WALL/SLAB OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS. SEE MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL
- 3.17 UNLESS NOTED OTHERWISE, ALL CURBS SHALL BE REINFORCED WITH AT LEAST (1) #13 CONTINUOUS AND #13 AT 300mm OC DOWELS TO STRUCTURE BELOW.

DRAWINGS.

- 3.18 THE SUB-CONTRACTOR SHALL VERIFY ALL OPENINGS, PAD SIZES, AND ANCHOR BOLTS WITH EQUIPMENT SELECTED.
- 3.19 FOR ALL WALLS & PIERS, PROVIDE DOWELS INTO FOOTING AT EACH VERT REINF BAR, U.N.O. DOWEL SIZE SHALL BE SAME AS VERT REINF.
- 3.20 ALL DEFORMED BAR ANCHORS SHALL BE TRS NELSON DIVISION OR EQUAL 15mm DIA (UNO) CONFORMING TO ASTM A-496M WITH A MINIMUM TENSILE STRENGTH OF 550 MPa. ANCHOR DIMENSIONS SHALL BE IN ACCORDANCE WITH ASTM D-19. INSTALL ANCHORS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS BY AUTOMATIC ND WELDING AS INDICATED ON THE DRAWINGS. NO UNAUTHORIZED OR FIELD WELDING SHALL BE MADE WITHOUT AUTHORIZATION FROM THE MANUFACTURER.
- 3.21 ALL REINFORCING INDICATED TO BE WELDED SHALL BE IN ACCORDANCE WITH ASTM A706M. "LOW ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT". ANY INSTALLATIONS USING MANUFACTURER'S EQUIPMENT SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
- 3.22 PROVIDE CONCRETE POUR STOPS OR FORMED AS REQUIRED FOR INSTALLATION OF ALL CONCRETE WORK.
- 3.23 PROVIDE ADDITIONAL 2-#13 x 600mm REINFORCING BARS IN SLAB-ON GRADE AT ALL RE-ENTRANT CORNERS. PLACE BARS AT MID-DEPTH OF SLAB WITH A CLEARANCE OF 50mm FROM CORNER UNO.





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AFGHAN NATIONAL POLICE
STANDARD DESIGN
ENTRY CONTROL POINT CANOPY
STRUCTURAL GENERAL NOTES

SHEET REFERENCE NUMBER:

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NUMBER:

STRUCTURAL DESIGN CRITERIA

ALL DESIGNS SHALL CONFORM TO THE PROVISIONS OF THE IBC 2006 AND UFC 4-010-01 AS APPLICABLE

1.0 DESIGN LOADS

1.1 DEAD LOADS

1.1.2 ROOF DEAD LOADS - PRE-ENGINEERED FRAMING

	MAXIMUM	MINIMUM
	GRAVITY LOAD	GRAVITY LOAD
STEEL FRAMING	0.20 KPa	0.15 KPa
METAL DECKING/ROOFING	0.14 KPa	0.05 KPa
MECH / ELEC / PLUMBING	0.15 KPa	0.10 KPa
METAL PANEL CEILING	0.15 KPa	0.15 KPa
MISC	0.40 KPa	0.00 KPa
	1.00 KPa	0.45 KPa

1.3 LIVE LOADS (PER IBC 2006)

1.3.1 ROOF LIVE LOADS: ALL BUILDINGS

GREATER OF 1.0 KPa MINIMUM OR SNOW LOAD

1.3.3 SLAB-ON-GRADE LIVE LOADS

ALL BUILDINGS

4.80 KPa

1.4 SNOW LOADS (PER IBC 2006)

1.3.1 DESIGN PARAMETERS

GROUND SNOW LOAD (per UFC 3-310-01) PER LOCAL CONDITION SNOW IMPORTANCE FACTOR 1.0 KPa 1.0 KPa SNOW EXPOSURE FACTOR

1.5 SEISMIC LOADS (PER IBC 2006 & TM 5-809-10)

1.5.2 SEISMIC PARAMETERS - PRE-ENGINEERED BUILDINGS

SEISMIC OCCUPANCY CATEGOR	Y	II
SEISMIC IMPORTANCE FACTOR	(1)	1.0
SEISMIC SITE CLASS		D
Ss		1.28
S1		0.51
Sds		0.853
Sd1		0.510
SEISMIC DESIGN CATEGORY		D
SEISMIC RESISTING SYSTEM		MOMENT RESISTING FRAME
		INTERMEDIATE STEEL MOMENT FRAMES
RESPONSE MODIFICATION FACTOR	OR (R)	3.5
SEISMIC ANALYTICAL PROCEDU	` '	EQUIV LATERAL FORCE

1.6 WIND LOADS (PER IBC 2006)

1.6.1 DESIGN PARAMETERS

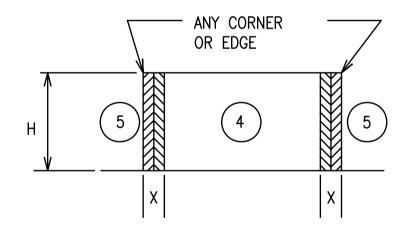
BASIC WIND SPEED	145 Km/h
WIND IMPORTANCE FACTOR	1.0
WIND EXPOSURE CATEGORY	D
DIRECTIONALITY COEFFICIENT (Kd)	0.85
TOPOGRAPHIC FACTOR (Kzt)	1.0

1.6.2 DESIGN WIND PRESSURE - MAIN WINDFORCE RESISTING SYSTEM

LOCATION	CORNER ZONE WIDTH "a"	WINDWARD (@ MEAN ROOF HEIGHT)	LEEWARD (@ MEAN ROOF HEIGHT)	ROOF
FIELD ZONE	N/A	964 N/m ²	-604 N/m ²	-1340 N/m ²
CORNER ZONE	1440mm	1127 N/m ²	-588 N/m ²	-1355 N/m ²

1.6.3 DESIGN WIND PRESSURE - WALL COMPONENTS AND CLADDING

EXTERIOR WALL SYSTEMS & THEIR ATTACHMENTS TO THE PRIMARY STRUCTURE SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE DIAGRAM BELOW:

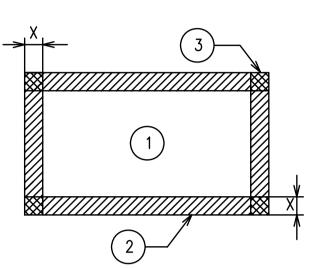


	WINDWARD PRESSURE N/m² (inward)		LEEWARD		
LOCATION			N/m² (Χ	
	(4)	(5)	(4)	(5)	
MAIN BUILDING					(mm)
$AREA = 1 m^2$	1513	1513	-1634	-2017	1440
$AREA = 2 m^2$	1438	1438	-1567	1859	1440
$AREA = 5 m^2$	1345	1345	-1469	-1691	1440
$AREA = 10 m^2$	1246	1246	-1370	-1444	1400

1. DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES. 2. LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE. 3. PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

1.6.4 DESIGN WIND PRESSURE - ROOF COMPONENTS AND CLADDING

ROOF COMPONENTS & THEIR ATTACHMENTS SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE ADJACENT DIAGRAM & TABLE BELOW:



ROOF MEAN HEIGHT

LOCATION	GROS	X		
	1	2	3	
MAIN BUILDING				(mm)
$AREA = 1 m^2$	-1513	-1790	-3342	-1440
$AREA = 2 m^2$	-1513	-1790	-3342	-1440
$AREA = 5 m^2$	-1513	-1790	-3342	-1440
$AREA = 10 \text{ m}^2$	-1513	-1790	-3342	-1440

1. DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES. 2. LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE. 3. PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

STRUCTURAL DESIGN CRITERIA

2.0 FOUNDATION DESIGN CRITERIA (TO BE CONFIRMED BT THE CONTRACTOR)

THE GEOTECHNICAL ANALYSIS FOR THIS PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AWARDED THE WORK. DESIGN VAULUES USED IN THE STRUCTURAL ANALYSIS OF THE BUILDINGS HEREIN INDICATED HAVE BEEN ASSUMED AND SHALL BE CONFIRMED AND VERIFIED AS PART OF THE GEOTECHNICAL INVESTIGATION. VAULES WHICH DO NOT MEET THE REQUIREMENTS INDICATED BELOW SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER-OF-RECORD FOR CONSIDERATION AND DETERMINATION ON THE NEXT APPROPRIATE COURSE OF ACTION.

2.1.1 SOIL DESIGN PARAMETERS

NET ALLOWABLE SOIL BEARING CAPACITY	96.0 KPa
UNIT WEIGHT OF SOIL (moist)	1800 Kg/m ³
COEFF ACTIVE EARTH PRESSURE (Kpa)	0.30
COEFF PASSIVE EARTH PRERSSURE (Kp	p) 3.33
COEFF AT-REST EARTH PRESSURE (Kpr	.55
COEFF OF SOIL FRICTION	.35
SUBGRADE MODULUS	4120 g/m ³

MINIMUM BEARING DEPTH BELOW GRADE 800mm SEISMIC SITE CLASS (based on in-situ soil)

SHEET REFERENCE

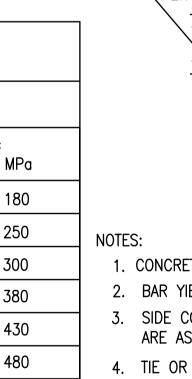
MINIMUM LAP SPLICES OF REINFORCING BARS IN TENSION (PER ACI 318)									
f'c = 27.5MPa CONCRETE									
CENTER TO (TOP BARS) (OTHER BARS)									
BAR SIZE	CENTER BAR SPACING	LESS THAN 4db	4db OR MORE	LESS THAN 4db	4db OR MORE	4db			
	#10	460	460	410	410	40			
	#13	660	610	510	480	50			
	#16	1020	760	790	580	60			
	#19	1450	910	1120	710	80			
	#22	1960	1090	1500	840	90			
	#25	2590	1450	1980	1120	100			
	#29	3280	1830	2510	1420	110			
	#32	4140	2340	3200	1780	130			
	#36	5080	2840	3910	2180	140			

NOTES:	
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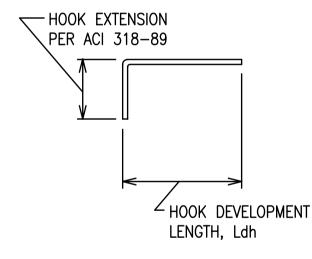
FRESH CONCRETE.

- 2. YIELD STRENGTH OF REINFORCEMENT, fy, IS
- 3. CONCRETE IS NORMAL WEIGHT (2400Kg/m). 4. TOP BAR INDICATES HORIZONTAL REINFORCEMENT WHICH IS PLACED ABOVE 300mm OR MORE OF
- 1. LAP SPLICES ABOVE ARE IN MILLIMETERS UNO. 5. SEE COLUMN SCHEDULE FOR COLUMN AND SHEAR WALL VERTICAL LAP SPLICE.
- 400MPa (LAP SPLICE LENGTH IS IN MILLIMETERS). 6. STRAIGHT DEVELOPMENT LENGTH OF AN UNLAPPED BAR IS FOUAL TO VALUE FROM TABLE DIVIDED BY 1.3.

	BILL IO ENCORE TO WILDE THOM INDEE DIVIDED BY THE
7.	CATEGORY FOR BARS SPACED LESS THAN 4d, OR ON
	CENTER CORRESPONDS TO CATEGORY 1 IN THE CRSI
	HANDBOOK WHEREAS FOR BARS SPACED 4d, OR MOR
	ON CENTER CORRESPOND TO CRSI CATEGORY 5.



	STANDARD HOOKS IN TENSION PER (ACI 318-89)							
	HOOK DEVELOPMENT LENGTH Ldh (mm)							
BAR SIZE	f'c 20 MPa	f'c 27.5 MPa						
#10	230	180						
#13	280	250						
#16	360	300						
#19	430	380						
#22	480	430						
#25	560	480						
#29	640	560						
#32	710	610						
#36	790	690						



ELECTRODES

- 1. CONCRETE IS NORMAL WEIGHT CONCRETE. 2. BAR YIELD STRENGTH, fy = 400 MPa
- 3. SIDE COVER REQUIREMENTS OF ACI SECT. 12.5.3.2 ARE ASSUMED TO NOT BE MET.
- 4. TIE OR STIRRUP REQUIREMENTS OF ACI SECT. 12.5.3.2 ARE ASSUMED TO NOT BE MET.
- 5. REDUCTION FOR EXCESS REINFORCEMENT IS NOT TAKEN.
- 6. HOOK DEVELOPMENT LENGTH IS VALID FOR 180 HOOKS ALSO.
- 7. FOR 35 MPa CONCRETE, USE VALUES FOR 30 MPa

STE	EEL MATERIALS SCHEDULE	
STRUCTURAL ELEMENT	FY YIELD STRENGTH (MPa)	REMARKS
BEAMS & GIRDERS	250	ASTM A36M ASTM A6M
COLUMNS	240	ASTM A53-95 GRADE B ASTM A6M
MISC BRACING	250	ASTM A572M ASTM A6M
CONNECTIONS, PLATES, & ALL OTHERS	250	ASTM A36M ASTM A6M
ANCHOR BOLTS	_	ASTM A36M or A307M ASTM A6M
PIPES	240	ASTM A53-95 GRADE B ASTM A6M
Tubing	345	ASTM A500-93 GRADE C ASTM A6M
HIGH STRENGTH BOLTS	-	ASTM A325M-N
WELDING	_	AWS D1.1-90

E70xx

MINIMUM CONCRETE COVER PROTECTION BE AS FOLLOWS: (SEE ACI 318—89M, S DIMENSIONS FOR BAR PLACEMENT GIVEN SUPERSEDE MINIMUM COVER REQUIREME	SECTION 7.7 FOR CONDITIONS NOT IN SECTIONS AND DETAILS SHALL	NOTED).
FOOTINGS (EARTH FORMED)		70
COLUMNS / PIERS		40
GRADE BEAMS OR SLAB TURNED DOWN	EDGES:	
TOP BOTTOM (EARTH FORMED) SIDES (EARTH FORMED) SIDES (BOARD FORMED)	#16 BAR & SMALLER #19 THRU #36 BAR	40 70 70 40 50
SLABS-ON-GRADE (NO EXPOSURE TO	WEATHER) FROM TOP	20
SLABS-ON-GRADE (EXPOSURE TO WEA	THER) FROM TOP	40
UTILITY TUNNEL WALLS, RETAINING WAL (NO SURFACES SHALL BE EARTH FORM EARTH SIDE AND FRONT SIDE (EXPOSE #16 BAR AND SMALLER #19 THRU #36 BAR	MED)	40 50
PROVIDE STANDARD BAR CHAIRS AND SCONCRETE PROTECTION SPECIFIED.	SPACERS AS REQUIRED TO MAINTAIN	N

BE AS FOLLOWS: (SEE ACI 318-89M DIMENSIONS FOR BAR PLACEMENT G	TION FOR REINFORCEMENT BARS SHALL M, SECTION 7.7 FOR CONDITIONS NOT IVEN IN SECTIONS AND DETAILS SHALL EMENTS GIVEN HERE. DIMENSIONS ARE	NOTED).
FOOTINGS (EARTH FORMED)		70
COLUMNS / PIERS		40
GRADE BEAMS OR SLAB TURNED DO	WN EDGES:	
TOP BOTTOM (EARTH FORMED) SIDES (EARTH FORMED) SIDES (BOARD FORMED)	#16 BAR & SMALLER #19 THRU #36 BAR	40 70 70 40 50
		40
SLABS-ON-GRADE (NO EXPOSURE	TO WEATHER) FROM TOP	20
SLABS-ON-GRADE (EXPOSURE TO	WEATHER) FROM TOP	40
UTILITY TUNNEL WALLS, RETAINING (NO SURFACES SHALL BE EARTH F EARTH SIDE AND FRONT SIDE (EXP	ORMED)	
#16 BAR AND SMALLER #19 THRU #36 BAR		40 50
PROVIDE STANDARD BAR CHAIRS AN CONCRETE PROTECTION SPECIFIED.	ND SPACERS AS REQUIRED TO MAINTAI	N

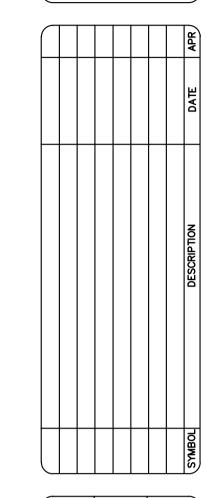
FOOTINGS (EARTH FORMED)		70
COLUMNS / PIERS		40
GRADE BEAMS OR SLAB TURNED DO	DWN EDGES:	
TOP BOTTOM (EARTH FORMED) SIDES (EARTH FORMED) SIDES (BOARD FORMED)	#16 BAR & SMALLER #19 THRU #36 BAR	40 70 70 40 50
		40
SLABS-ON-GRADE (NO EXPOSURE	TO WEATHER) FROM TOP	20
SLABS-ON-GRADE (EXPOSURE TO	•	40
UTILITY TUNNEL WALLS, RETAINING (NO SURFACES SHALL BE EARTH EARTH SIDE AND FRONT SIDE (EX	FORMED)	
#16 BAR AND SMALLER #19 THRU #36 BAR		4 0 50

SPREAD FOOTING AND PIER SCHEDULE									
MARK	FOOTING SIZE		FOOTING	PIER				REMARKS	
IMAINN	LENGTH	WIDTH	THICKNESS	REINFORCING	SIZE	T/PIER	VERT. BARS	TIES	NEWANNS
F2	2500	2500	300	7-#16 E.W., T & B	450	0.0	8-#19	2 SETS #10 @ 125	HAIRPINS REQ'D. SEE DETAILS

NOTES:

- 1. DIMENSIONS NOTED ARE MILLIMETERS (mm) U.N.O.
- T/PIER EL GIVEN IN REFERENCE TO 0.0 mm DATUM OR FINISH FLOOR EL/SLAB EL, DISTANCE ABOVE OR BELOW INDICATED AS NEGATIVE OR POSITIVE.
- 3. PIER SIZE INDICATED IS SQUARE (DIMENSION SAME IN BOTH DIRECTIONS) U.N.O.

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US Army Corp of Engineers
Afghanistan Engineer District



DATE:	60-30-60	SUBMITTED BY:	BAKER	FILE NO.:	ANPSDS-003XXX
DESIGNED BY: DATE:	BAKER	DWN BY:	RCG	CHK BY:	RTD

AFGHAN NATIONAL POLICE STANDARD DESIGN ENTRY CONTROL POINT CANOPY

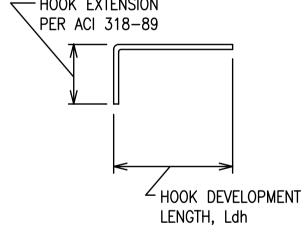
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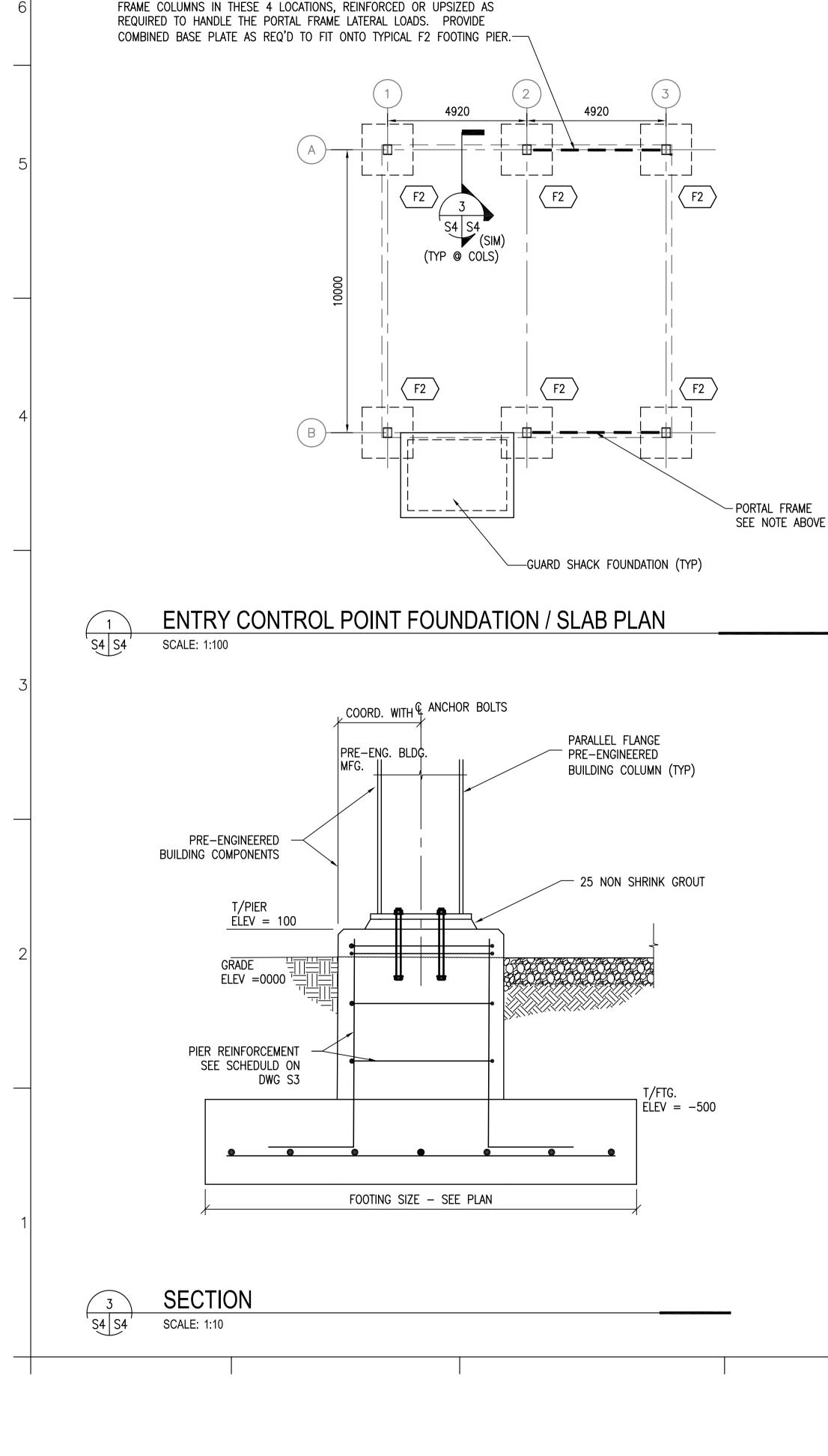
CONCRETE MATERIALS	SCHEDULE
STRUCTURAL ELEMENT	f'c CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS (MPa)
SLAB-ON-GRADE/TURN-DOWN SLABS	27.5
ROOF AND FLOOR SLABS	27.5
ALL FOOTINGS (U.N.O.)	20
MISC. CURBS, WALLS AND PADS UND	27.5
CAST-IN-PLACE LINTEL	20
CONCRETE FRAMING - BEAMS AND COLUMNS	27.5

NOTES:

BEAMS AND COLUMNS

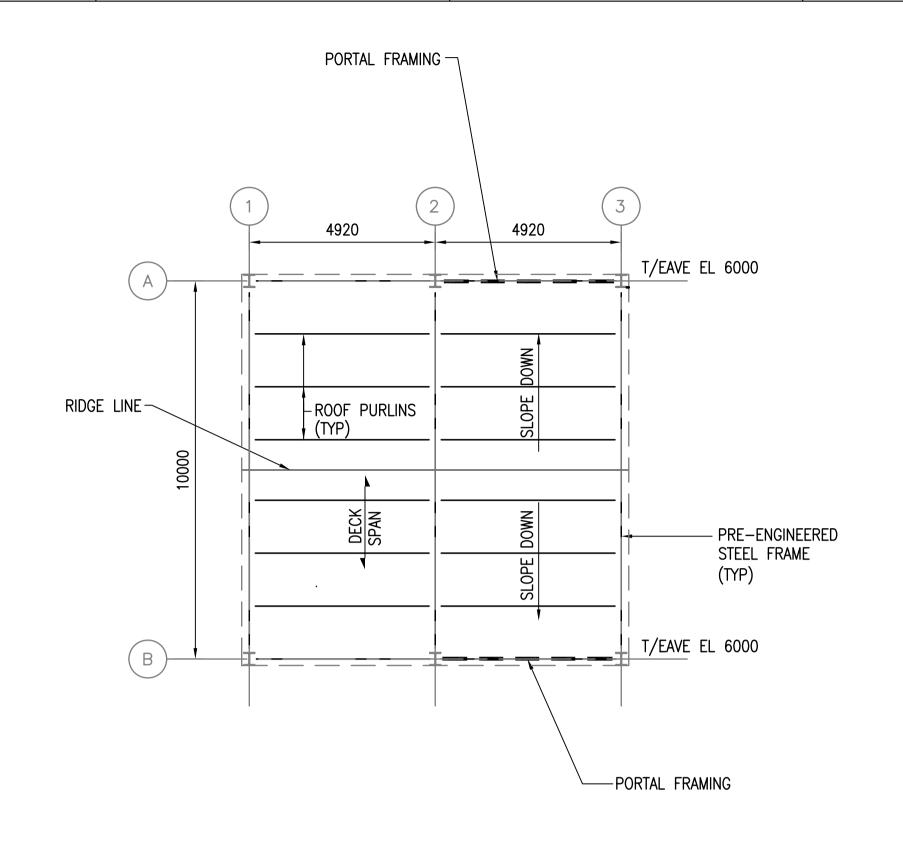
1. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE. (2400 Kg/m³ UNO)





PORTAL FRAMING - DESIGNATED LOCATION FOR PRE-ENGINEERED PORTAL

FRAMING. PORTAL FRAMING COLUMNS SHALL BE COMBINED WITH THE RIGID



ENTRY CONTROL POINT ROOF FRAMING PLAN

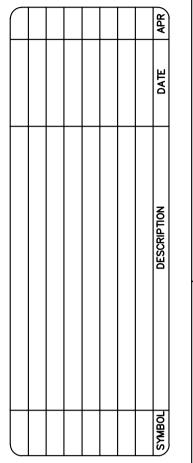
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NOTES :

- 1. FINISH GRADE ELEVATION SHALL BE (DATUM 0.0) ALL PLUS OR MINUS DIMENSIONS INDICATED ON PLAN OR REFERRED TO IN NOTES RELATE TO FINISH GRADE ELEVATION.
- 2. TOP OF EXTERIOR FOOTINGS SHALL BE -500 UNLESS OTHERWISE INDICATED.
- 3. SPREAD FOOTINGS INDICATED THUS $\langle XXXX \rangle$ ON PLAN. REFER TO SPREAD FOOTING SCHEDULE ON DRAWING S3.
- 4. REFER TO DRAWINGS S1 TO S3 FOR STRUCTURAL NOTES, BASIS OF DESIGN, SYMBOLS AND ABBREVIATIONS.
- 5. PRIOR TO CONSTRUCTION OF FOUNDATIONS, THE CONTRACTOR SHALL COORDINATE THE LOCATIONS OF ALL FOOTINGS, PIERS, AND TURN DOWN SLAB EDGES WITH THE PRE-ENGINEERED BUILDING DRAWINGS AND REVISE AS NECESSARY.
- 6. PRE-ENGINEERED COLUMN BASES SHALL BE DESIGNED AS PINNED ONLY.
- 7. LOCATIONS OF LATERAL RESISTING SYSTEMS (PORTAL FRAMES, X-BRACING) HAS BEEN SHOWN IN PLAN AND SHALL NOT BE MODIFIED UNLESS APPROVED BY THE ENGINEER OF RECORD.
- 8. ALL PIERS FOR PRE-ENGINEERED BUILDING COLUMNS SHALL HAVE HAIR-PIN TIES AS INDICATED IN THE DETAILS.
- 9. ANCHOR BOLTS FOR PRE-ENGINEERED BUILDING COLUMNS SHALL BE (4)-20 DIA A307M ANCHOR BOLTS WITH 300 EMBED MIN.
- 10. TOP OF PIER ELEVATION SET AT +100. COORDINATE BOTT/BASE PLATE AND GROUT REQUIREMENTS WITH PRE-ENGINEERED BUILDING MANUFACTURER.
- 11. THE PRE-ENGINEERED BUILDING MANUFACTURER SHALL COORDINATE ALL LOADING REQUIREMENTS INDICATED ON THE DRAWINGS AND SPECIFICATIONS WITH ARCH., STRUCT., MECH., AND ELEC.
- 12. THE PRE-ENGINEERED BUILDING MANUFACTURER SHALL COORDINATE ALL HANGING LOADING FROM EQUIPMENT OR ARCHITECTURAL ELEMENTS AND INCLUDE IN THE DESIGN OF THE FRAMING.
- 13. SEE SPECIFICATION FOR LATERAL DRIFT REQUIREMENTS.
- 14. METAL ROOF DECKING DESIGN AND PROVIDED BY PRE-ENGINEERED BUILDING MANUFACTURER.

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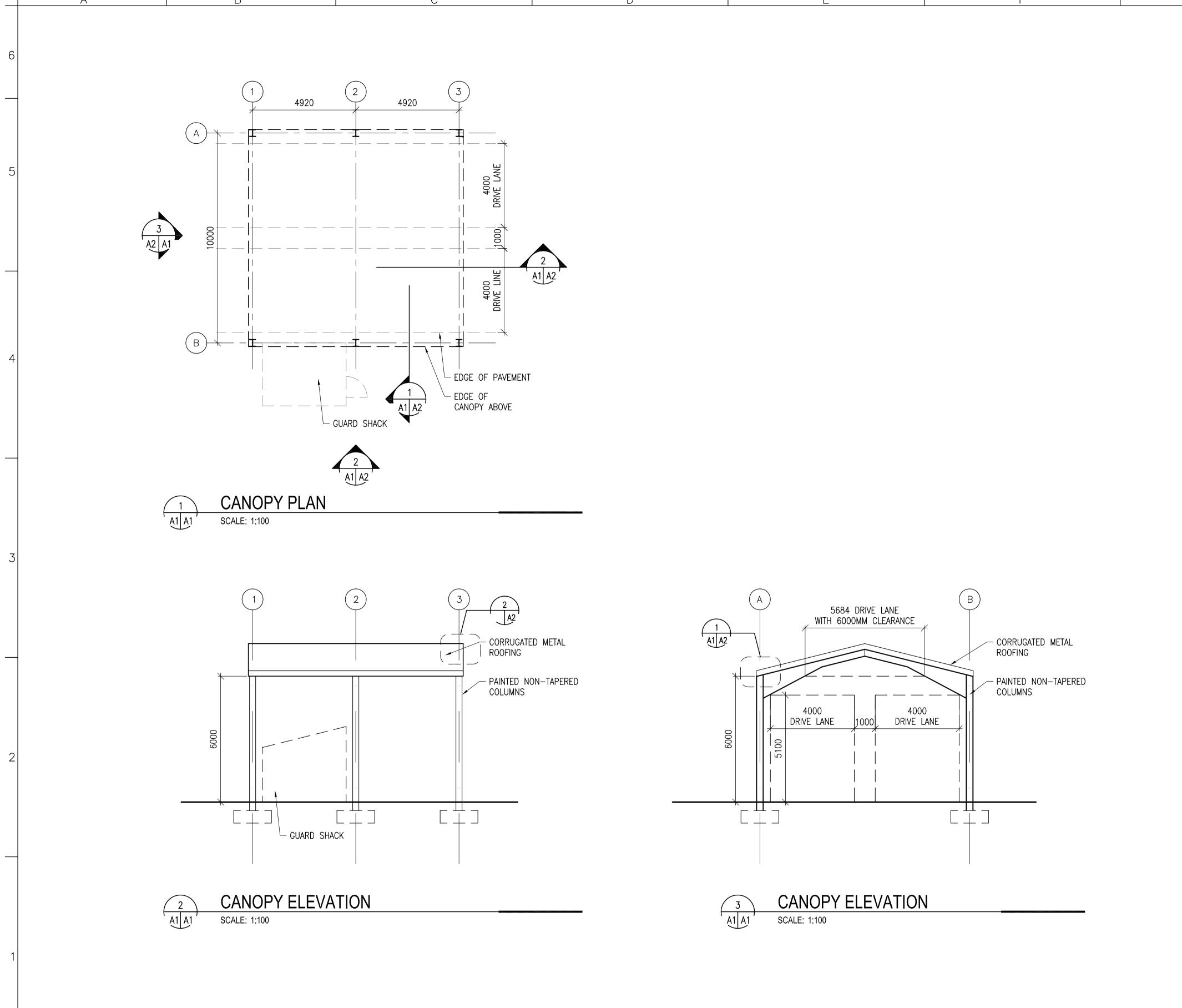
Afghanistan Engineer District



FOUNDATION / SLAB / ROOF FRAMING PLAN AFGHAN NATIONAL POLICE STANDARD DESIGN ENTRY CONTROL POINT CANOPY

S4

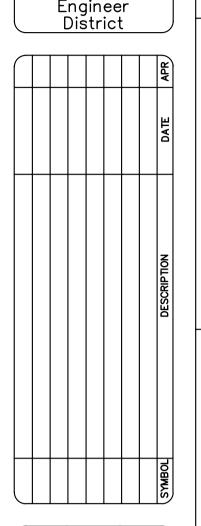
1 0 1 2 3 4 5 6 7 8 9



CANOPY NOTES:

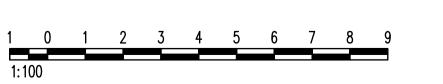
- 1. STRUCTURE SHALL BE PRE-ENGINEERED METAL BUILDING SYSTEM
- 2. SURFACES TO BE PAINTED SHALL BE CLEAN AND FREE OF FOREIGN MATTER BEFORE APPLICATION OF PAINT. CLEANING SHALL BE SCHEDULED SO THAT DUST AND OTHER CONTAMINANTS WILL NOT FALL ON WET, NEWLY PAINTED SURFACES.
- 3. PAINTS CONTAINING LEAD IN EXCESS OF 0.06 PERCENT BY WEIGHT OF THE TOTAL NONVOLATILE CONTENT SHALL NOT BE USED.
- 4. MERCURIAL FUNGICIDES SHALL NOT BE USED IN OIL-BASE PAINT.
- 5. REMOVE LOOSE DIRT AND CLEAN SURFACES BEFORE PAINTING. APPLY PAINT TO INTERIOR STRUCTURAL RIGID FRAMINGS AND CEILINGS AND TEST FOR ADHESION. PRIMER COAT FOR MASONRY. INITIAL FIRST COAT WITH AN ACRYLIC LATEX PAINT FOR EXTERIOR SURFACES AND A SECOND COAT WITH A WATER REPELLANT ACRYLIC LATEX PAINT.

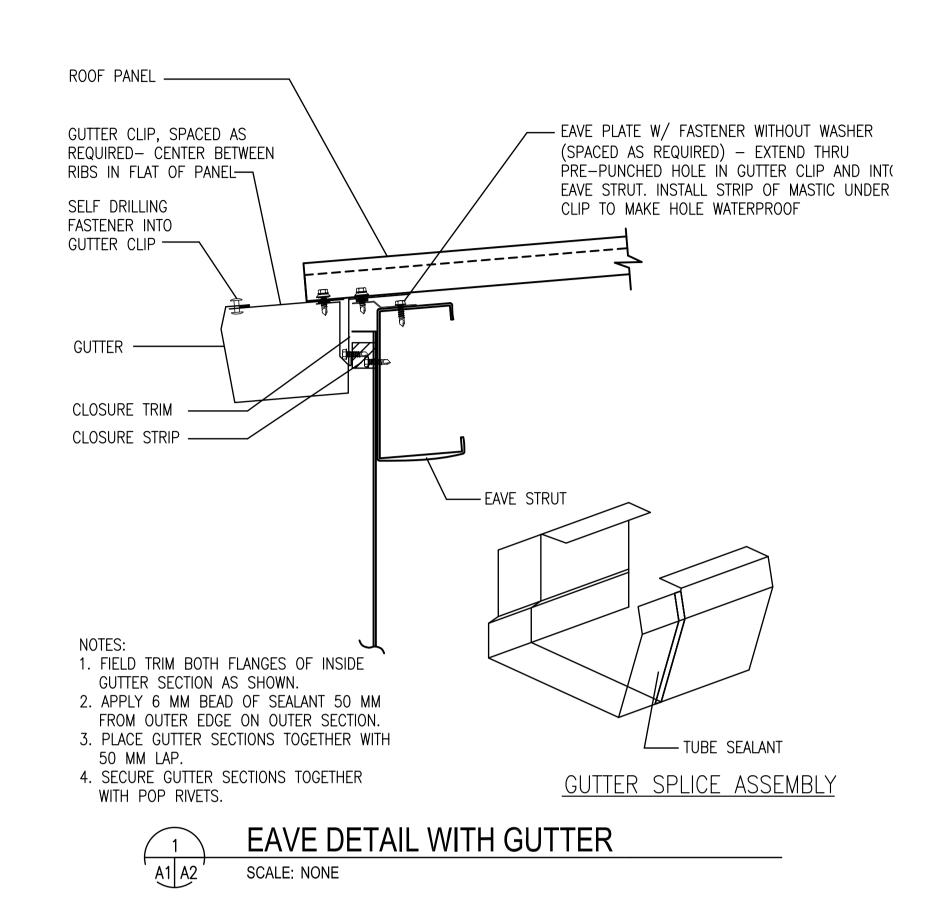
US Army Corps of Engineers
Afghanistan Engineer

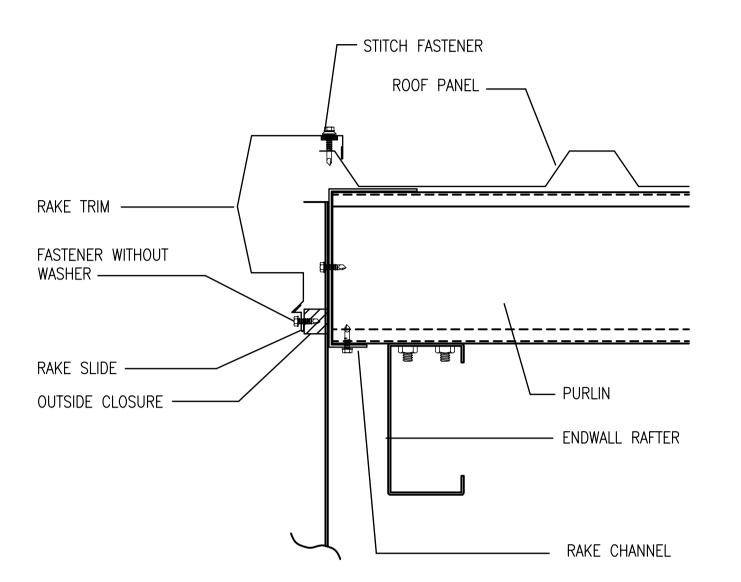


DATE:	09-30-09	SUBMITTED BY:	BAKER	FILE NO.:	ANPSDA-101XXX
DESIGNED BY: DATE:	BAKER	DWN BY:	SOr	CHK BY:	RTD
	Michael Rober Ir Inc	A unit of Michael Baker Corporation	Airside Business Park 100 Airside Drive	Moon Township PA 15108	www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
ENTRY CONTROL POINT CANOPY
CANOPY PLAN, ELEVATIONS, AND SECTIONS

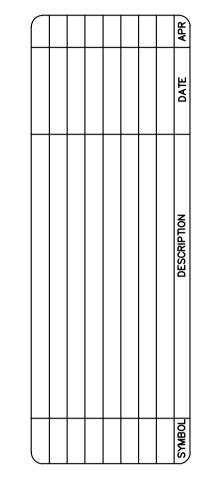






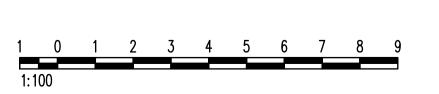


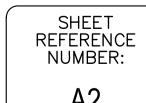




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DESIGNED BY: DATE:	BAKER	DWN BY:	SON	CHK BY:	RTD

CANOPY PLAN, ELEVATIONS, AND SECTIONS AFGHAN NATIONAL POLICE STANDARD DESIGN ENTRY CONTROL POINT CANOPY





A2

AFGHAN NATIONAL POLICE STANDARD BUILDING DESIGNS

FUEL GENERATOR CANOPY

SHEET INDEX

- **COVER SHEET**
- STRUCTURAL GENERAL NOTES
- STRUCTURAL BASIS OF DESIGN
- STRUCTURAL MATERIAL SCHEDULES
- CANOPY FOUNDATION AND SLAB PLAN
- CANOPY ROOF FRAMING PLAN
- SECTIONS AND DETAILS
- CANOPY PLAN, ELEVATIONS, AND SECTIONS
- CANOPY ELEVATIONS, AND SECTIONS
- CANOPY DETAILS
- **FUEL SYSTEM**
- FUEL SYSTEM DIAGRAM
- FUEL SYSTEM DETAILS
- FUEL SYSTEM DETAILS
- ELECTRICAL SYMBOLS AND ABBREVIATIONS
- LIGHTING PLAN
- **POWER PLAN**
- PANEL SCHEDULE



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				DESCRIPTION		
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				SYMBOL		

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		Microsoft Dakel Off, IIIC A unit of Michael Baker Corporation		Moon Township PA 15108	

AFGHAN NATIONAL POLICE STANDARD DESIGN FUEL GENERATOR CANOPY

SHEET REFERENCE G1

WITH

WITHOUT

W/0

GENERAL NOTES

1.0 THIS PROJECT HAS BEEN DESIGNED FOR THE WEIGHTS AND MATERIALS INDICATED ON THE DRAWINGS AND FOR THE LIVE LOADS INDICATED IN THE DESIGN DATA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE PROPER DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGING,

BRACING, SHEETING AND SHORING, ETC.

1.1 COORDINATE THESE DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND CIVIL DRAWINGS. ALL DIMENSIONS SHOWN ON THE DRAWINGS ARE MILLIMETERS UNLESS NOTED OTHERWISE.

1.2 THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL FLOOR AND ROOF OPENING SIZES AND LOCATIONS, EQUIPMENT PAD SIZES AND LOCATIONS, ANCHOR BOLT LAYOUTS, ETC WITH EQUIPMENT SELECTED. THE CONTRACTOR SHALL MAKE ANY REQUIRED MODIFICATIONS AT NO ADDITIONAL COST.

1.3 THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR SLEEVES, CURBS, INSERTS OR OPENINGS, ETC. NOT HEREIN INDICATED.

1.4 NOT USED

1.5 SLAB OPENINGS SMALLER THAN 250mm DIA TO BE CORE DRILLED IN FIELD UNO. SEE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR LOCATIONS OF THESE

1.6 WORK NOT INCLUDED ON THE DRAWINGS BUT IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES ELSEWHERE ON THE DRAWINGS SHALL BE REPEATED.

1.7 IN CASE OF CONFLICT BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS THE MOST RIGID REQUIREMENTS SHALL GOVERN.

1.8 COORDINATE FINISHED FLOOR DATUM ELEVATION 0.0m WITH THE CIVIL DRAWINGS.

O O FOUNDATION NOTES

2.0 FOUNDATION NOTES

2.1 THE GEOTECHNICAL ANALYSIS FOR THIS PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AWARDED THE WORK. DESIGN VALUES USED IN THE STRUCTURAL ANALYSIS OF THE BUILDINGS HEREIN INDICATED HAVE BEEN ASSUMED AND SHALL BE CONFIRMED AND VERIFIED AS PART OF THE GEOTECHNICAL INVESTIGATION. VALUES WHICH DO NOT MEET THE REQUIREMENTS INDICATED ON THE BASIS OF DESIGN SHEET SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER—OF—RECORD FOR CONSIDERATION AND DETERMINATION ON THE NEXT APPROPRIATE COURSE OF ACTION.

2.2 SEE THE SPECIFICATION FOR ADDITIONAL REQUIREMENTS TO THOSE OUTLINED IN THE GEOTECHNICAL INVESTIGATION FOR EXCAVATION AND PREPARATION OF THE FOUNDATION AND THE SLAB ON GRADE SUBGRADE INCLUDING COMPACTION PROCEDURES.

2.3 EXCAVATIONS FOR FOOTINGS SHALL HAVE THE SIDES AND BOTTOMS TEMPORARILY LINED WITH 0.15mm POLYETHYLENE IF PLACEMENT OF CONCRETE DOES NOT OCCUR WITHIN 24 HRS OF THE EXCAVATION OF THE FOOTING.

2.4 FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE GENERAL CONTRACTOR BEFORE FURTHER CONSTRUCTION IS ATTEMPTED. SEE PROJECT SPECIFICATIONS.

2.5 NO FOOTINGS OR SLABS SHALL BE POURED INTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, ICE OR LOOSE MATERIAL. FROST DEPTH ASSUMED TO BE 800MM

2.6 ALL SLAB-ON-GRADE, TRENCH BOTTOMS AND OTHER ON-GRADE INTERIOR HORIZONTAL SURFACES SHALL BE PLACED OVER A 0.15mm VAPOR BARRIER OVER A 100mm #57 STONE WATER BARRIER PLACED ON SUBGRADE PROPERLY PREPARED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. (UNO)

2.7 SEE PLUMBING, ELECTRICAL & CIVIL DRAWINGS FOR REQUIRED UNDERSLAB UTILITIES.

2.8 SEE ARCHITECTURAL DRAWINGS FOR ALL WATERPROOFING DETAILS AND MATERIALS.
2.9 IF UNDERMINING OF FOOTINGS OCCURS, FILL VOIDS WITH 15MPa CONCRETE. DO NOT ATTEMPT TO REPLACE AND RECOMPACT SOIL.

3.0 <u>CONCRETE</u>

CONCRETE SHALL HAVE THE UNIT WEIGHT AND THE MINIMUM COMPRESSIVE STRENGTHS (f'c) AT 28 DAYS AS SHOWN IN THE CONCRETE MATERIALS SCHEDULE ON THE BASIS OF DESIGN SHEET. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION. ENTRAIN AIR TO PRODUCE TOTAL AIR CONTENT ACCORDING TO THE SPECIFICATIONS FOR CONCRETE EXPOSED TO FREEZING TEMPERATURES (EXTERIOR FOOTINGS, SLAB TURNDOWNS, EXTERIOR SLABS AND SLABS—ON—GRADE, EXTERIOR RETAINING WALLS, AND EXTERIOR GRADE BEAMS.)

3.2 GROUT FOR BASE PLATES SHALL BE NON—SHRINKABLE GROUT AND SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH AT 28 DAYS OF 35MPa, UNLESS NOTED OTHERWISE.

3.3 NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.

3.4 MIXING, TRANSPORTING AND PLACING OF CONCRETE SHALL CONFORM TO AC1-301-89

3.5 ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE (ACI) 318M MANUAL (metric), "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AND REQUIREMENTS OUTLINED IN THE CONTRACT SPECIFICATIONS. WHEN THERE IS A CONFLICT BETWEEN ACI AND THE SPECIFICATIONS, THE MORE STRINGENT SHALL GOVERN.

3.6 CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 20mm x45 DEGREE CHAMFER UNO.

3.7 CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615M-96a, GRADE 60, REINFORCING BARS SHALL NOT BE TACK WELDED, WELDED, HEATED OR CUT, UNLESS INDICATED ON THE CONTRACT DOCUMENTS. ALL LAP SPLICES SHALL BE CLASS "B" UON.

3.8 HORIZONTAL FOOTING AND HORIZONTAL WALL REINFORCEMENT SHALL BE CONTINUOUS AND SHALL HAVE 90 DEGREE BENDS AND EXTENSIONS, OR CORNER BARS OF EQUIVALENT SIZE LAPPED WITH A CLASS B TENSION SPLICE AT CORNERS AND INTERSECTIONS. TOP BAR CRITERIA SHALL APPLY IF 300mm OR MORE OF FRESH CONCRETE IS PLACED BELOW BAR.

3.9 SLABS-ON-GRADE SHALL HAVE CONSTRUCTION JOINTS OR CRACK CONTROL JOINTS AS SHOWN ON THE DRAWINGS. CONSTRUCTION JOINTS CAN BE USED AT CONTROL JOINT LOCATIONS AT CONTRACTORS OPTION. SEE SLAB PLANS & JOINT DETAILS FOR ADDITIONAL INFORMATION. FOR AREAS NOT SHOWN ON DWGS, THE MAXIMUM SPACING OF CONSTRUCTION / CRACK CONTROL JOINTS SHALL BE 4800 mm

3.10 ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED, AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318, AND THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315, LATEST EDITION.

3.11 SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING AND PLACEMENT, SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION.

3.12 NOT USED.

3.13 ALL DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING, UNLESS NOTED OTHERWISE ON DRAWINGS.

3.14 ADDITIONAL BARS SHALL BE PROVIDED AROUND ALL FLOOR AND WALL OPENINGS AS SHOWN ON THE DWGS.

3.15 SEE ARCHITECTURAL DRAWINGS FOR TYPE AND LOCATION OF ALL FLOOR FINISHES.

3.16 THE CONTRACTOR SHALL COORDINATE ADDITIONAL WALL/SLAB OPENINGS NOT SHOWN ON STRUCTURAL DRAWINGS. SEE MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL DRAWINGS.

3.17 UNLESS NOTED OTHERWISE, ALL CURBS SHALL BE REINFORCED WITH AT LEAST (1) #13 CONTINUOUS AND #13 AT 300mm OC DOWELS TO STRUCTURE BELOW.

3.18 THE SUB-CONTRACTOR SHALL VERIFY ALL OPENINGS, PAD SIZES, AND ANCHOR BOLTS WITH EQUIPMENT SELECTED.

3.19 FOR ALL WALLS & PIERS, PROVIDE DOWELS INTO FOOTING AT EACH VERT REINF BAR, UON DOWEL SIZE SHALL BE SAME AS VERT REINF.

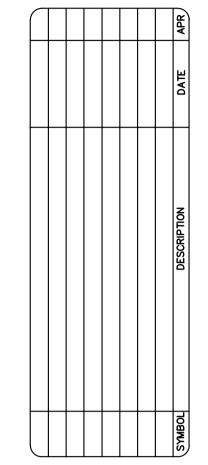
3.20 ALL DEFORMED BAR ANCHORS SHALL BE TRS NELSON DIVISION OR EQUAL 15mm DIA (UON) CONFORMING TO ASTM A-496M WITH A MINIMUM TENSILE STRENGTH OF 550 MPa. ANCHOR DIMENSIONS SHALL BE IN ACCORDANCE WITH ASTM D-19. INSTALL ANCHORS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS BY AUTOMATIC ND WELDING AS INDICATED ON THE DRAWINGS. NO UNAUTHORIZED OR FIELD WELDING SHALL BE MADE WITHOUT AUTHORIZATION FROM THE MANUFACTURER.

3.21 ALL REINFORCING INDICATED TO BE WELDED SHALL BE IN ACCORDANCE WITH ASTM A706M. "LOW ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT". ANY INSTALLATIONS USING MANUFACTURER'S EQUIPMENT SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

3.22 PROVIDE CONCRETE POUR STOPS OR FORMED AS REQUIRED FOR INSTALLATION OF ALL CONCRETE WORK.

3.23 PROVIDE ADDITIONAL 2-#13 x 600mm REINFORCING BARS IN SLAB-ON GRADE AT ALL RE-ENTRANT CORNERS. PLACE BARS AT MID-DEPTH OF SLAB WITH A CLEARANCE OF 50mm FROM CORNER UNO.

US Army Corps of Engineers Afghanistan Engineer District



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A unit of Michael Baker Corporation	DWN BY:	SUBMITTED BY:	
Airside Business Park	JAC	BAKER	
100 Airside Drive	!	· !	
Moon Township PA 15108	CHK BY:	FILE NO.:	
www.mbakercorp.com	RTD	ANPSDS-001xxx	
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AFGHAN NATIONAL POLICE
STANDARD DESIGN
FUEL GENERATOR CANOPY
STRUCTURAL GENERAL NOTES

SHEET REFERENCE NUMBER: NOISSIMBLIS %U

STRUCTURAL DESIGN CRITERIA

ALL DESIGNS SHALL CONFORM TO THE PROVISIONS OF THE IBC 2006 AS APPLICABLE

1.0 DESIGN LOADS

1.1 DEAD LOADS

1.1.1 ROOF DEAD LOADS - PRE-ENGINEERED FRAMING

	MAXIMUM	MINIMUM
	GRAVITY LOAD	GRAVITY LOAD
STEEL FRAMING	0.20 KPa	0.15 KPa
METAL DECKING/ROOFING	0.14 KPa	0.05 KPa
MECH/ELEC/PLUMBING	0.15 KPa	0.10 KPa
METAL PANEL CEILING	0.15 KPa	0.15 KPa
MISC	0.40 KPa	0.00 KPa
	1.00 KPa	0.45 KPa

1.2 LIVE LOADS (PER IBC 2006)

1.2.1 ROOF LIVE LOADS: ALL BUILDINGS

GREATER OF 1.0 KPa MINIMUM OR SNOW LOAD

1.2.2 SLAB-ON-GRADE LIVE LOADS

ALL BUILDINGS

4.80 KPa

1.3 SNOW LOADS (PER IBC 2006)

1.3.1 DESIGN PARAMETERS

GROUND SNOW LOAD (per UFC 3-310-01)	1.0 KPa
SNOW IMPORTANCE FACTOR	1.0
SNOW EXPOSURE FACTOR	1.0

1.4 SEISMIC LOADS (PER IBC 2006 & UFC 3-310-04)

SEISMIC ANALYTICAL PROCEDURE

1.4.1 SEISMIC PARAMETERS - PRE-ENGINEERED BUILDINGS

SEISMIC OCCUPANCY CATEGORY	II
SEISMIC IMPORTANCE FACTOR (I)	1.0
SEISMIC SITE CLASS	D
Ss	1.28
S1	0.51
Sds	0.853
Sd1	0.510
SEISMIC DESIGN CATEGORY	D
SEISMIC RESISTING SYSTEM	MOMENT RESISTING FRAME
	INTERMEDIATE STEEL MOMENT FRAMES
RESPONSE MODIFICATION FACTOR (R) 4.5
•	•

EQUIV LATERAL FORCE

1.5 WIND LOADS (PER IBC 2006)

1.5.1 DESIGN PARAMETERS

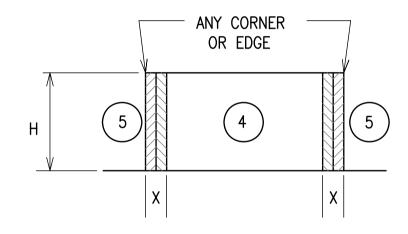
BASIC WIND SPEED	137 Km/l
WIND IMPORTANCE FACTOR	1.0
WIND EXPOSURE CATEGORY	[
DIRECTIONALITY COEFFICIENT (Kd)	0.8
TOPOGRAPHIC FACTOR (Kzt)	1.0

1.5.2 DESIGN WIND PRESSURE - MAIN WINDFORCE RESISTING SYSTEM

LOCATION	CORNER ZONE WIDTH "a"	WINDWARD (@ MEAN ROOF HEIGHT)	LEEWARD (@ MEAN ROOF HEIGHT)	ROOF
FIELD ZONE	N/A	600 N/m²	-570 N/m ²	-780 N/m²
CORNER ZONE	1440mm	830 N/m²	-680 N/m ²	-1130 N/m ²

1.5.3 DESIGN WIND PRESSURE - WALL COMPONENTS AND CLADDING

EXTERIOR WALL SYSTEMS & THEIR ATTACHMENTS TO THE PRIMARY STRUCTURE SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE DIAGRAM BELOW:



LOCATION	WINDWARD PRESSURE N/m² (inward)		LEEWARD N/m² (d	X	
	4	5	4	5	
MAIN BUILDING					(mm)
$AREA = 1 m^2$	1050	1050	-1140	-1410	1440
$AREA = 2 m^2$	1010	1010	-1100	-1310	1440
$AREA = 5 m^2$	910	910	-1000	-1120	1440
$AREA = 10 m^2$	820	820	-910	-930	1440

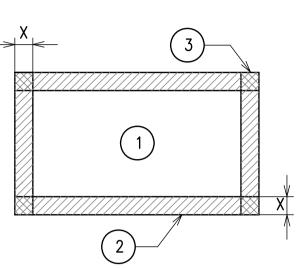
NOTES:

- 1. DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
 PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

1.5 WIND LOADS (CONT)

1.5.4 DESIGN WIND PRESSURE - ROOF COMPONENTS AND CLADDING

ROOF COMPONENTS & THEIR ATTACHMENTS SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE ADJACENT DIAGRAM & TABLE BELOW:



ROOF MEAN HEIGHT

LOCATION	GROS:	X		
	1	2	3	
MAIN BUILDING				(mm)
$AREA = 1 m^2$	-970	-1670	-2480	1440
$AREA = 2 m^2$	-950	-1540	-2320	1440
$AREA = 5 m^2$	-880	-1260	-1990	1440
$AREA = 10 m^2$	-880	-1240	-1960	1440

NOTES

- 1. DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
 PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

2.0 FOUNDATION DESIGN CRITERIA (TO BE CONFIRMED BY THE CONTRACTOR)

THE GEOTECHNICAL ANALYSIS FOR THIS PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AWARDED THE WORK. DESIGN VALUES USED IN THE STRUCTURAL ANALYSIS OF THE BUILDINGS HEREIN INDICATED HAVE BEEN ASSUMED AND SHALL BE CONFIRMED AND VERIFIED AS PART OF THE GEOTECHNICAL INVESTIGATION. VALUES WHICH DO NOT MEET THE REQUIREMENTS INDICATED BELOW SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER FOR CONSIDERATION AND DETERMINATION ON THE NEXT APPROPRIATE COURSE OF ACTION.

2.1.1 SOIL DESIGN PARAMETERS

NET ALLOWABLE SOIL BEARING CAPACITY	96.0 KPa
UNIT WEIGHT OF SOIL (moist)	1800 Kg/m^3
COEFF ACTIVE EARTH PRESSURE (Kpa)	0.30
COEFF PASSIVE EARTH PRESSURE (Kpp)	3.33
COEFF AT-REST EARTH PRESSURE (Kpr)	.55
COEFF OF SOIL FRICTION	.35
SUBGRADE MODULUS	4120 g/cm^3

MINIMUM BEARING DEPTH BELOW GRADE	800mm
SEISMIC SITE CLASS (based on in—situ soil)	D



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	CHK BY:	FILE NO.:
	RTD	ANPSDS-002XXX

AFGHAN NATIONAL POLICE STANDARD DESIGN FUEL GENERATOR CANOPY STRUCTURAL BASIS OF DESIGN

> SHEET REFERENCE NUMBER:

NCE ER: NOISSIMBIIS %001

MINIMUM LAP SPLICES OF REINFORCING BARS

IN TENS	IN TENSION (PER ACI 318M-05)						
f'c = 28 MPa CONCRETE							
CENTER TO	(TOP	BARS)	(OTHE				
CENTER BAR SPACING SIZE	LESS THAN 4db	4db OR MORE	LESS THAN 4db	4db OR MORE	4db		
#10	460	460	410	410	40		
#13	660	610	510	480	50		
#16	1020	760	790	580	60		
#19	1450	910	1120	710	80		
#22	1960	1090	1500	840	90		
#25	2590	1450	1980	1120	100		
#29	3280	1830	2510	1420	110		
#32	4140	2340	3200	1780	130		
#36	5080	2840	3910	2180	140		

CONCRETE CO	VER SCHEDULE
-------------	--------------

MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL BE AS FOLLOWS: (SEE ACI 318M-05, SECTION 7.7 FOR CONDITIONS NOT NOTED). DIMENSIONS FOR BAR PLACEMENT GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE MINIMUM COVER REQUIREMENTS GIVEN HERE. DIMENSIONS ARE IN mm.

FOOTINGS (EARTH FORMED)	70
COLUMNS / PIERS	40
GRADE BEAMS OR SLAB TURNED DOWN EDGES:	
TOD	40

TOP BOTTOM (EARTH FORMED) SIDES (EARTH FORMED) SIDES (BOARD FORMED)	#16 BAR & SMALLER #19 THRU #36 BAR	40 70 70 40 50
		40

SLABS-ON-GRADE (NO EXPOSURE TO WEATHER) FROM TO
SLABS-ON-GRADE (EXPOSURE TO WEATHER) FROM TOP

UTILITY TUNNEL WALLS, RETAINING WALLS AND SHEAR WALLS, (NO SURFACES SHALL BE EARTH FORMED) EARTH SIDE AND FRONT SIDE (EXPOSED TO WEATHER):

#16 BAR AND SMALLER

#19 THRU #36 BAR

PROVIDE STANDARD BAR CHAIRS AND SPACERS AS REQUIRED TO MAINTAIN CONCRETE PROTECTION SPECIFIED.

CONCRETE	MATERIALS	SCHEDULE
CHICKETE		SCHEDULL

STRUCTURAL ELEMENT	f'c CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS (MPa)
SLAB-ON-GRADE/TURN-DOWN SLABS	28
FLOOR SLABS	28
ALL FOOTINGS (UON)	28
MISC. CURBS, WALLS AND PADS UON	28
CAST-IN-PLACE LINTEL	28
CONCRETE FRAMING - BEAMS AND COLUMNS	28
NOTEC	

- 1. ALL CONCRETE SHALL BE NORMAL WEIGHT
- CONCRETE. $(2400 \text{ Kg/m}^3 \text{ UON})$ 2. ALL CONCRÈTE SHALL HAVE A MAX WATER-CEMENT RATIO OF 0.45.

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AFGHAN NATIONAL POLICE STANDARD DESIGN FUEL GENERATOR CANOPY

SHEET REFERENCE NUMBER:	

NOTES:

2. YIELD STRENGTH OF REINFORCEMENT, fy, IS 400MPa (LAP SPLICE LENGTH IS IN MILLIMETERS). 6. STRAIGHT DEVELOPMENT LENGTH OF AN UNLAPPED

3. CONCRETE IS NORMAL WEIGHT (2400Kg/m³).

4. TOP BAR INDICATES HORIZONTAL REINFÓRCÉMENT 7. WHICH IS PLACED ABOVE 300mm OR MORE OF FRESH CONCRETE.

STANDARD HOOKS IN

TENSION PER (ACI 318M-05)

HOOK DEVELOPMENT LENGTH Ldh (mm)

SIZE

#10

#16

#19

#25

#32

f'c 28 MPa

180

250

300

380

430

480

560

610

690

1. LAP SPLICES ABOVE ARE IN MILLIMETERS UON. 5. SEE COLUMN SCHEDULE FOR COLUMN AND SHEAR WALL VERTICAL LAP SPLICE.

> BAR IS EQUAL TO VALUE FROM TABLE DIVIDED BY 1.3. CATEGORY FOR BARS SPACED LESS THAN 4d, OR ON CENTER CORRESPONDS TO CATEGORY 1 IN THE CRSI HANDBOOK WHEREAS FOR BARS SPACED 4d, OR MORE ON CENTER CORRESPOND TO CRSI CATEGORY 5.

HOOK EXTENSION PER ACI 318M-05	
_	
HOOK DEVEL LENGTH, Ldr	

NOTES:

- 1. CONCRETE IS NORMAL WEIGHT CONCRETE.
- 2. BAR YIELD STRENGTH, fy = 400 MPa
- 3. SIDE COVER REQUIREMENTS OF ACI SECT. 12.5.3.2 ARE ASSUMED TO NOT BE MET.
- 4. TIE OR STIRRUP REQUIREMENTS OF ACI SECT. 12.5.3.2 ARE ASSUMED TO NOT BE MET.
- 5. REDUCTION FOR EXCESS REINFORCEMENT IS NOT TAKEN.
- 6. HOOK DEVELOPMENT LENGTH IS VALID FOR 180° HOOKS ALSO.

SPREAD FOOTING AND PIER SCHEDULE									
MARK		FOOTING SI	ZE	FOOTING DEINFORGING			PIER		DEMARKS
IMARK	LENGTH	WIDTH	THICKNESS	FOOTING REINFORCING	SIZE	T/PIER	VERT. BARS	TIES	REMARKS
(F1)	2500	2500	300	(7)-#16 EW T&B	450	-100	(4)-#19	2 SETS #13 @ 125	

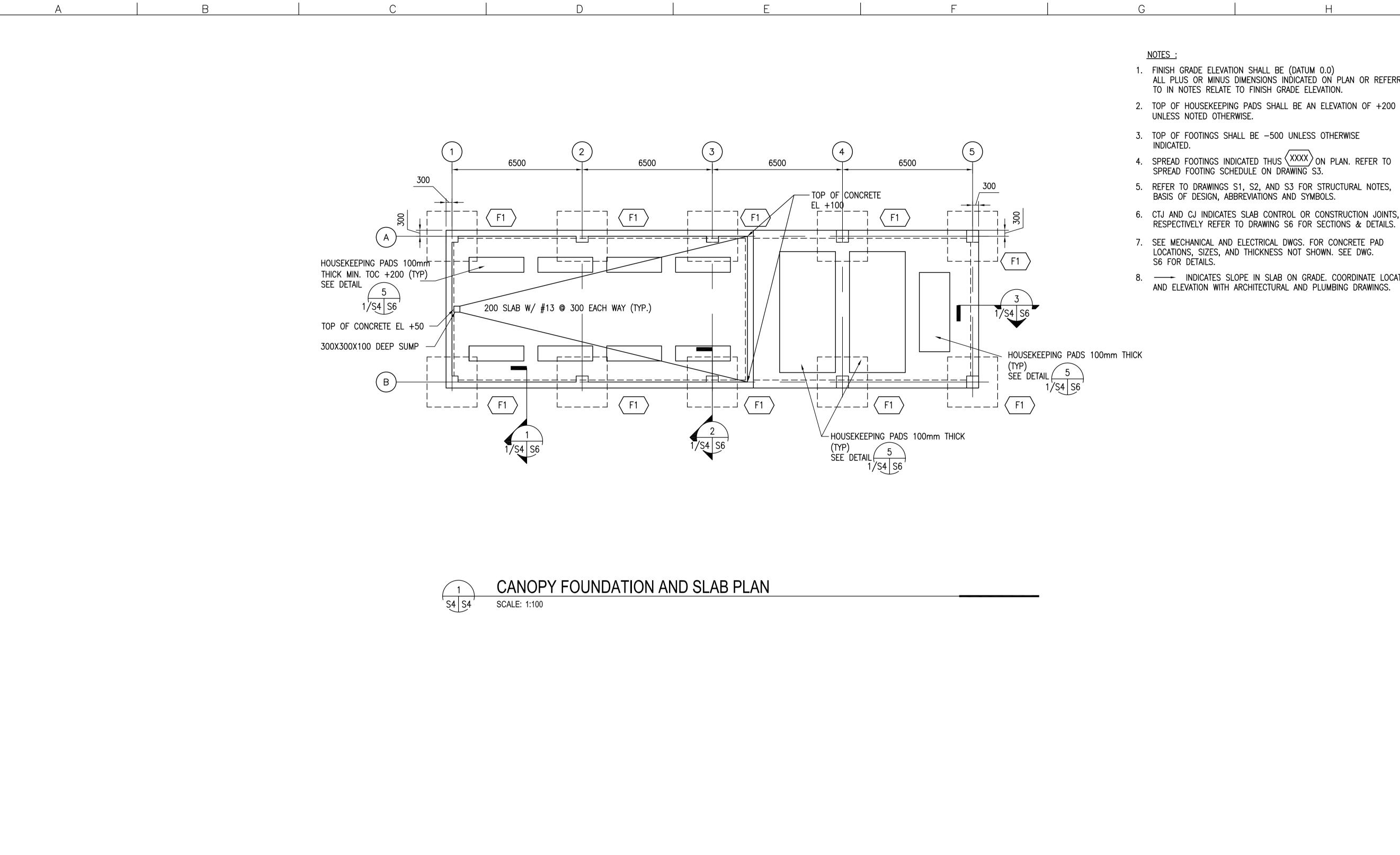
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- NOTES:

 1. DIMENSIONS NOTED ARE MILLIMETERS (mm) UON

 SAME
- 2. PIER SIZE INDICATED IS SQUARE (DIMENSION SAME IN BOTH DIRECTIONS) UON



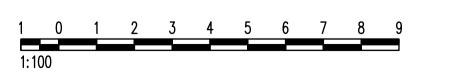
- 1. FINISH GRADE ELEVATION SHALL BE (DATUM 0.0) ALL PLUS OR MINUS DIMENSIONS INDICATED ON PLAN OR REFERRED TO IN NOTES RELATE TO FINISH GRADE ELEVATION.
- 2. TOP OF HOUSEKEEPING PADS SHALL BE AN ELEVATION OF +200 UNLESS NOTED OTHERWISE.
- 3. TOP OF FOOTINGS SHALL BE -500 UNLESS OTHERWISE
- 4. SPREAD FOOTINGS INDICATED THUS XXXX ON PLAN. REFER TO SPREAD FOOTING SCHEDULE ON DRAWING S3.
- 6. CTJ AND CJ INDICATES SLAB CONTROL OR CONSTRUCTION JOINTS,
- 7. SEE MECHANICAL AND ELECTRICAL DWGS. FOR CONCRETE PAD LOCATIONS, SIZES, AND THICKNESS NOT SHOWN. SEE DWG.
- 8. —— INDICATES SLOPE IN SLAB ON GRADE. COORDINATE LOCATION AND ELEVATION WITH ARCHITECTURAL AND PLUMBING DRAWINGS. (TYP.)

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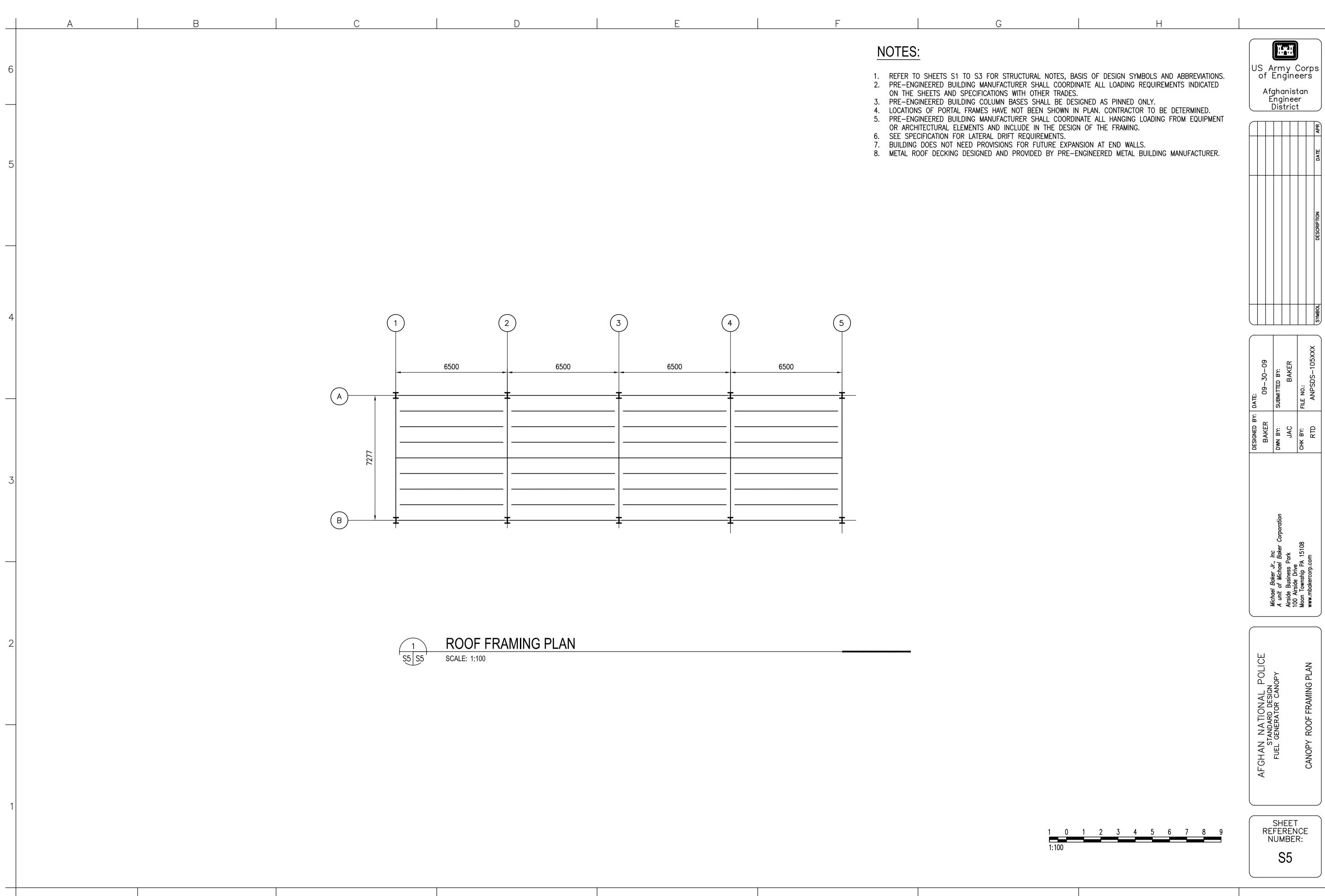
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AFGHAN NATIONAL POLICE STANDARD DESIGN FUEL GENERATOR CANOPY



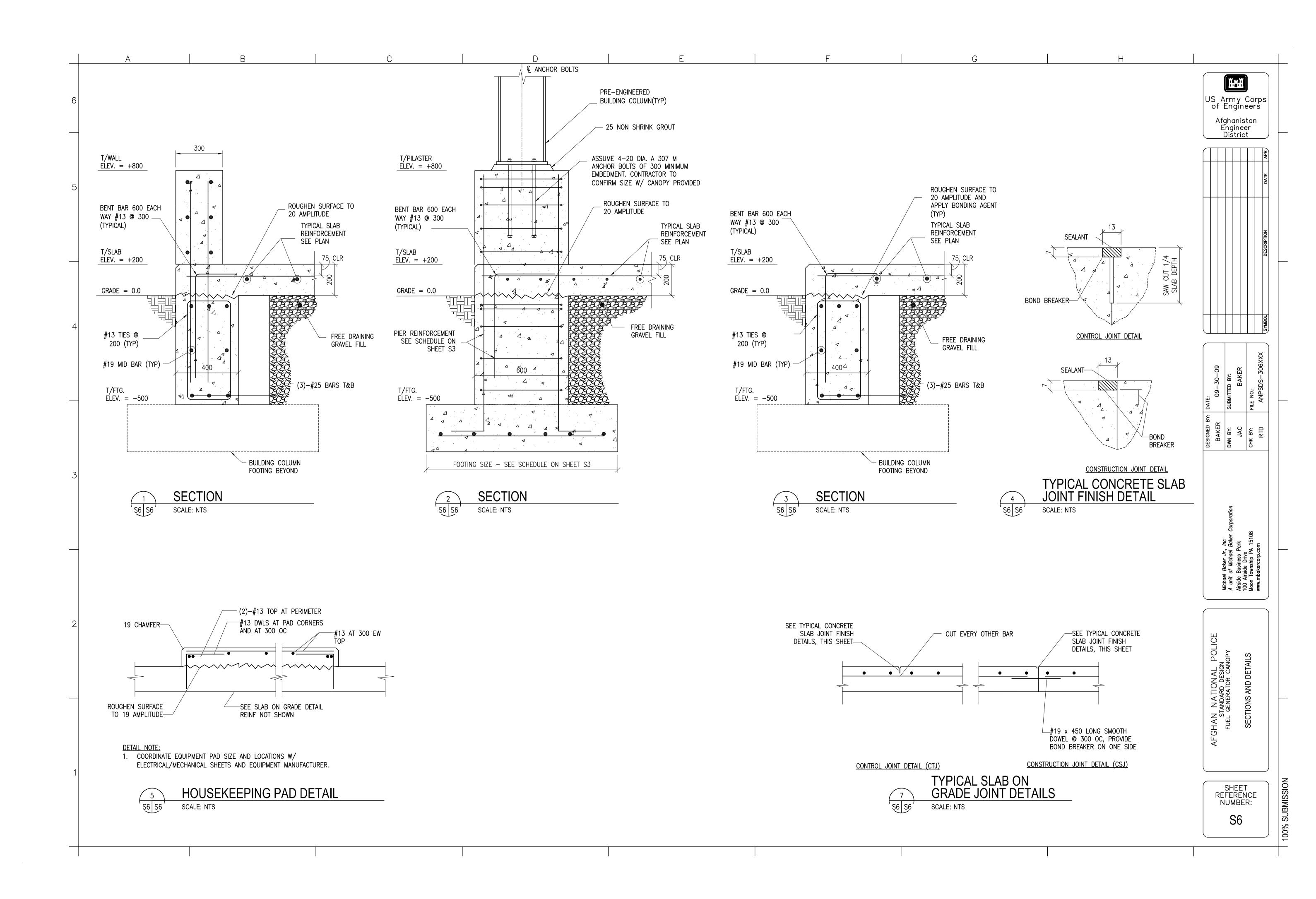
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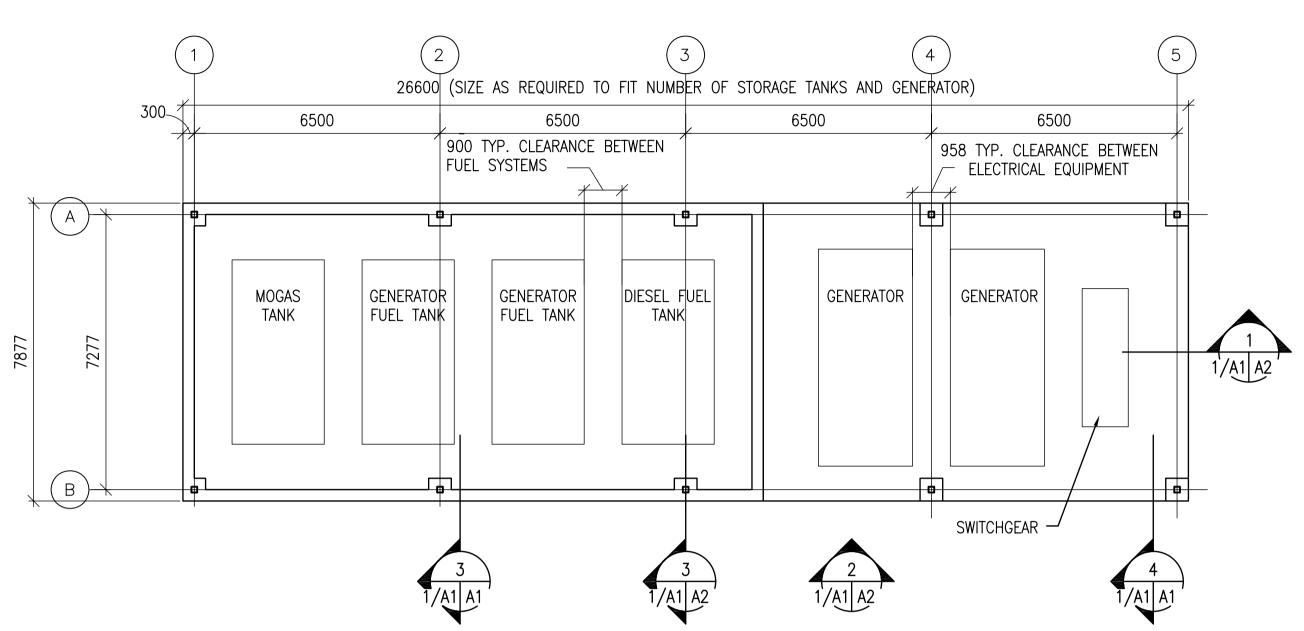
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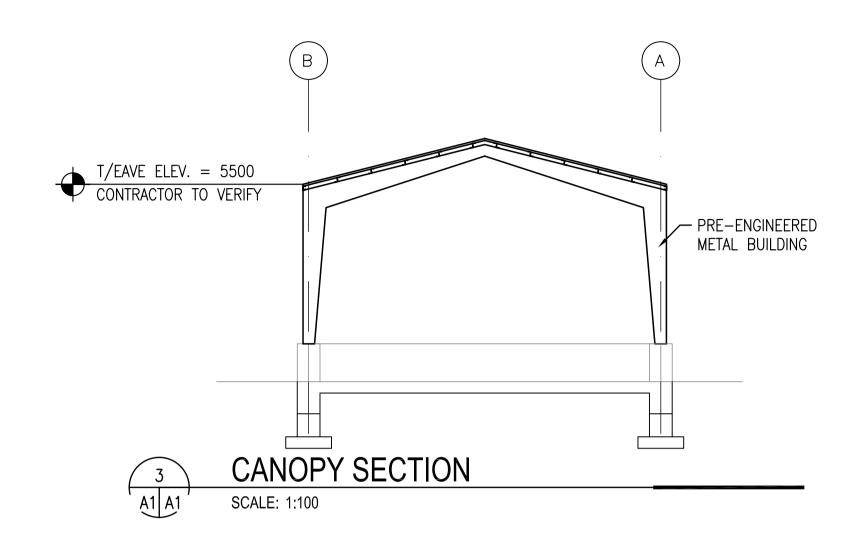


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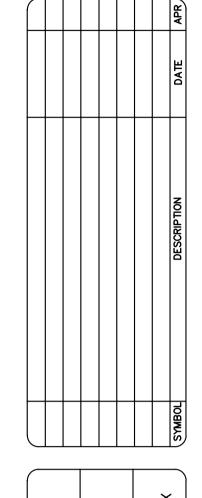




GENERATOR

CANOPY SECTION

SCALE: 1:100



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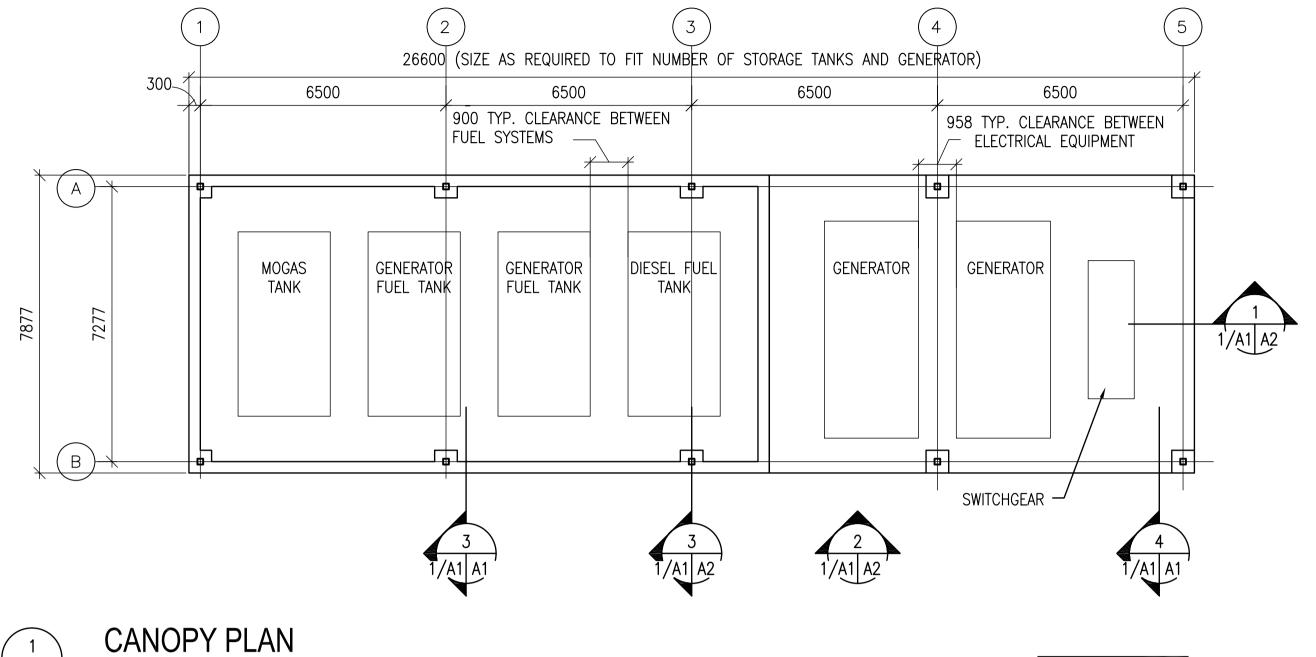
Afghanistan Engineer District

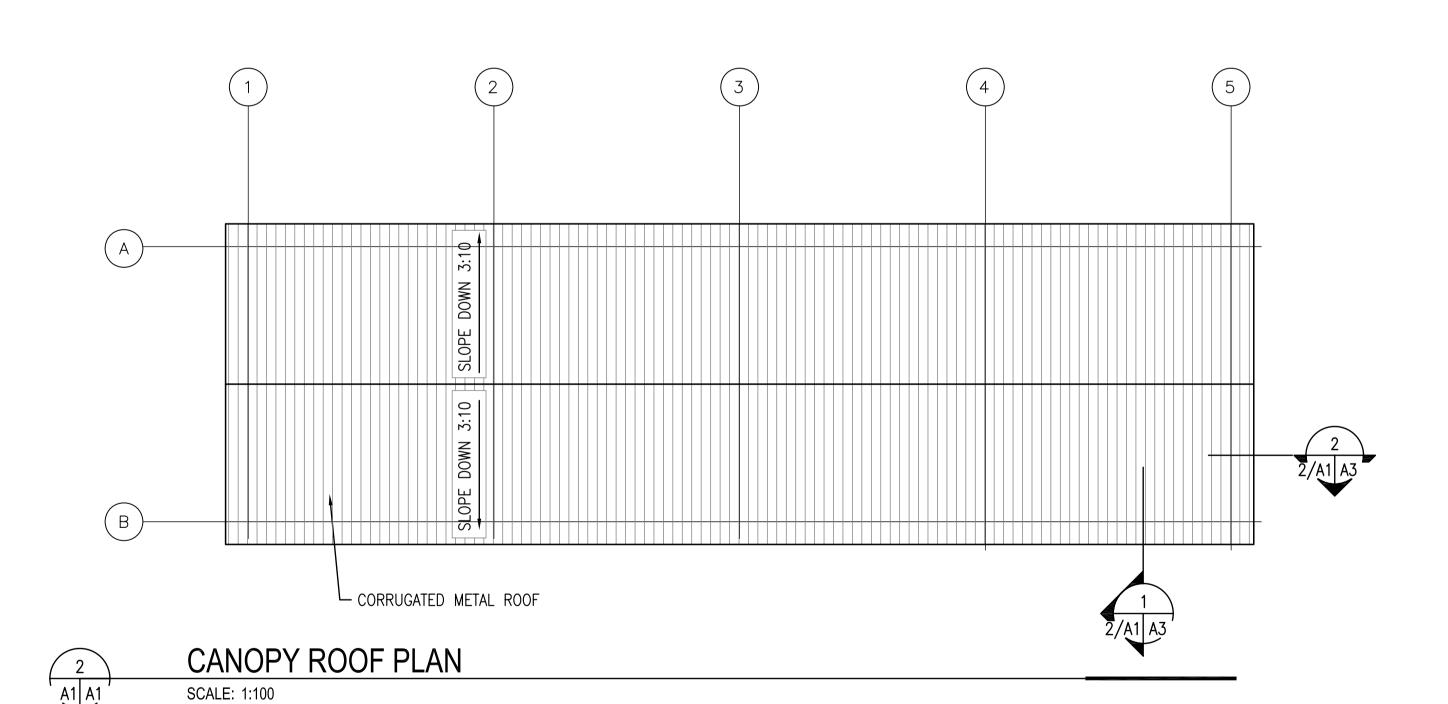
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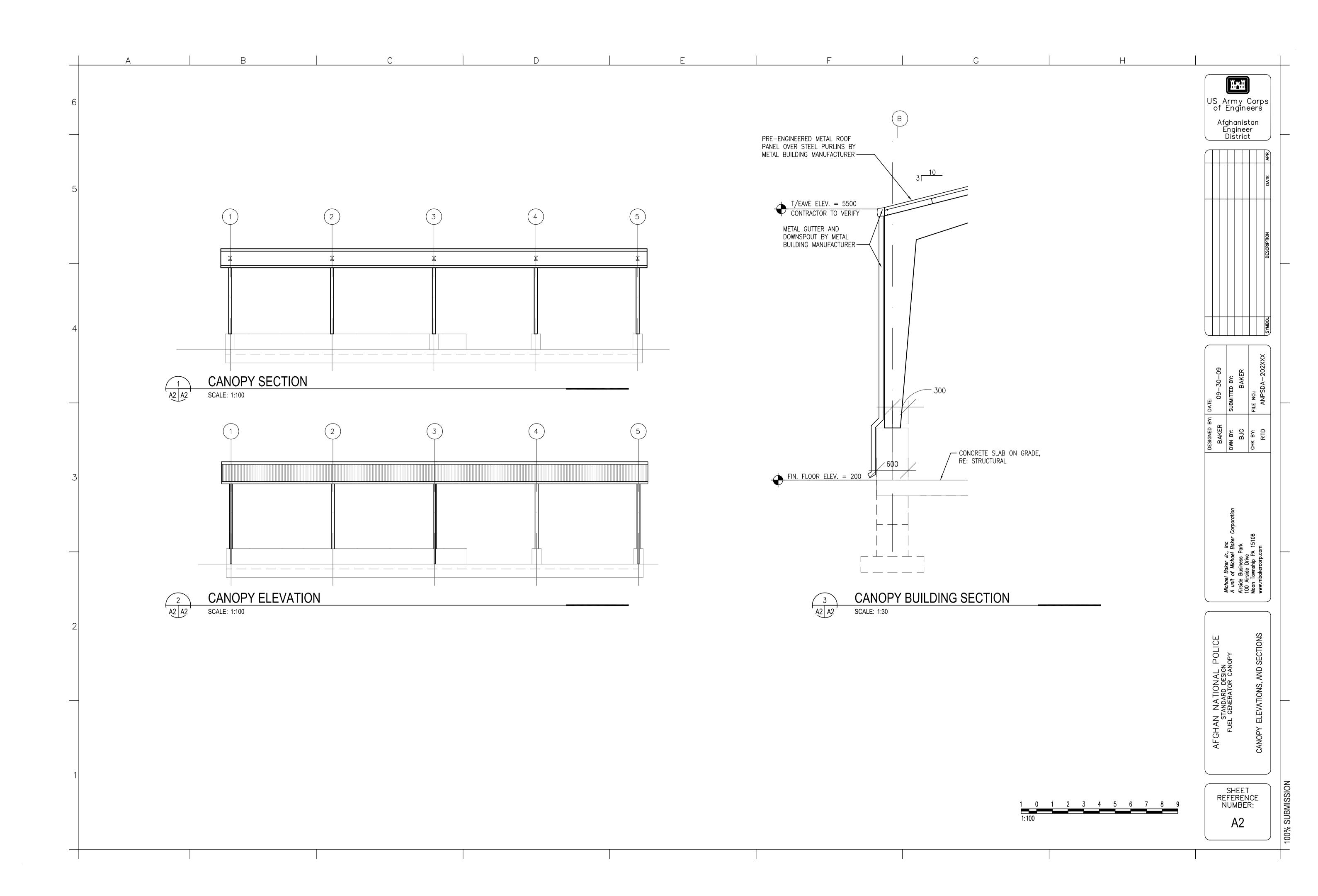


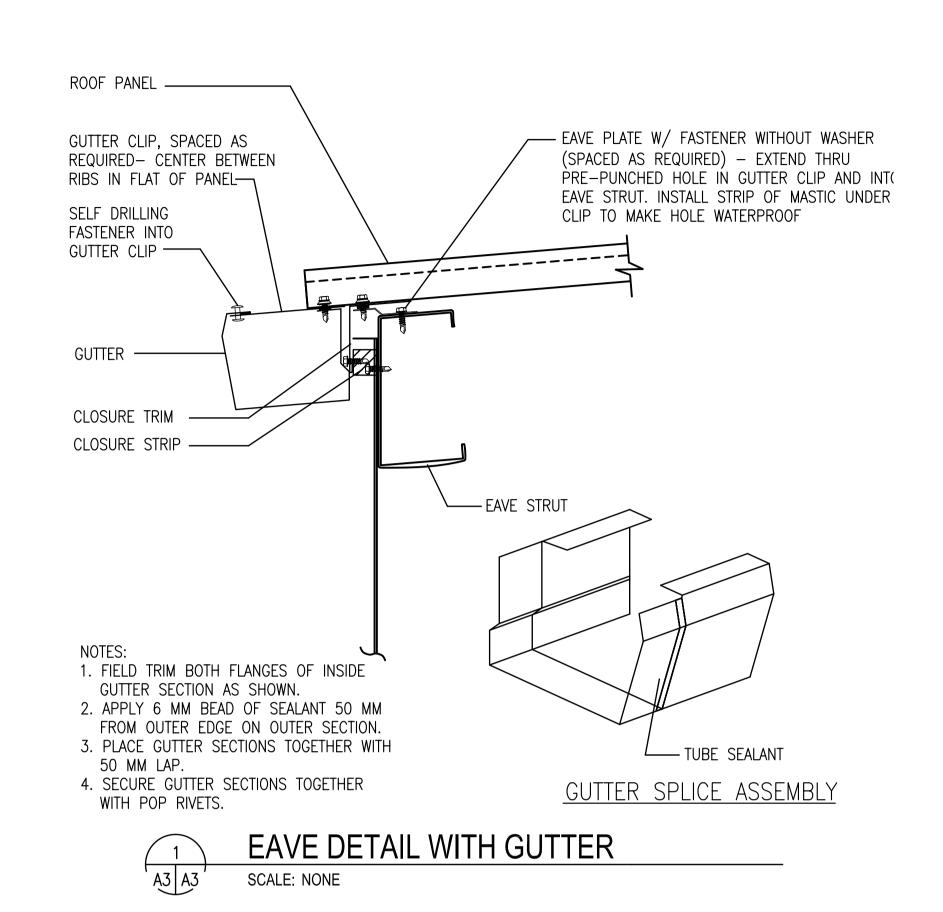


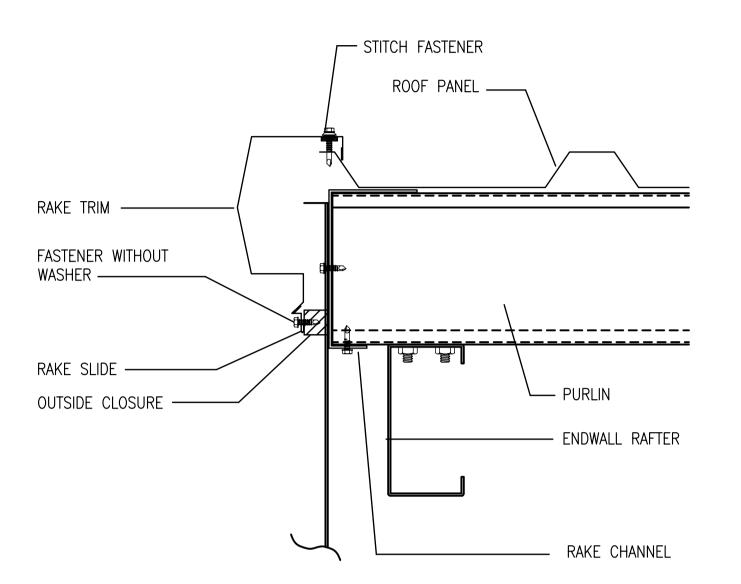
GENERAL NOTES:

SCALE: 1:100

- BUILDING UTILIZES PRE-ENGINEERED METAL SYSTEM W/ STANDARD MANUFACTURER'S ROOF PANEL, AND TRIM.
 PROJECT BUILDING DIMENSIONS NEED TO BE VERIFIED AND ADJUSTED TO FIT ACTUAL FUEL & GENERATOR REQUIREMENTS FOR ACTUAL SITE.

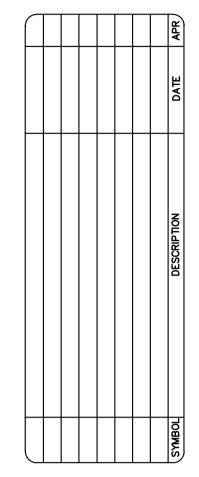








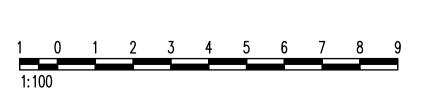


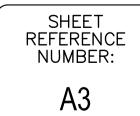


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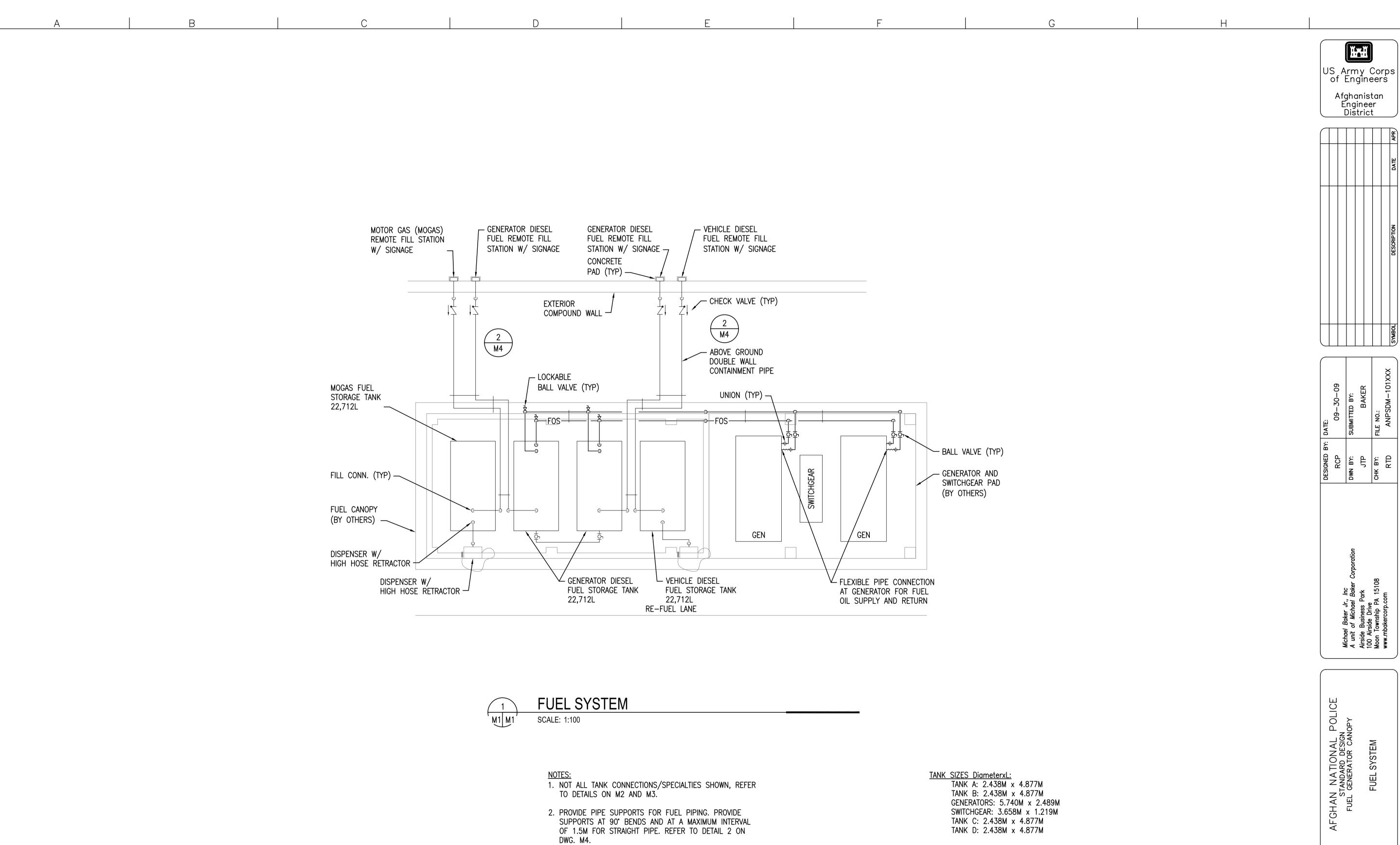
Michael Baker Jr., Inc A unit of Michael Baker Corpora Airside Business Park 100 Airside Drive Moon Township PA 15108 www.mbakercorp.com

AFGHAN NATIONAL POLICE
STANDARD DESIGN
FUEL GENERATOR CANOPY
CANOPY DETAILS





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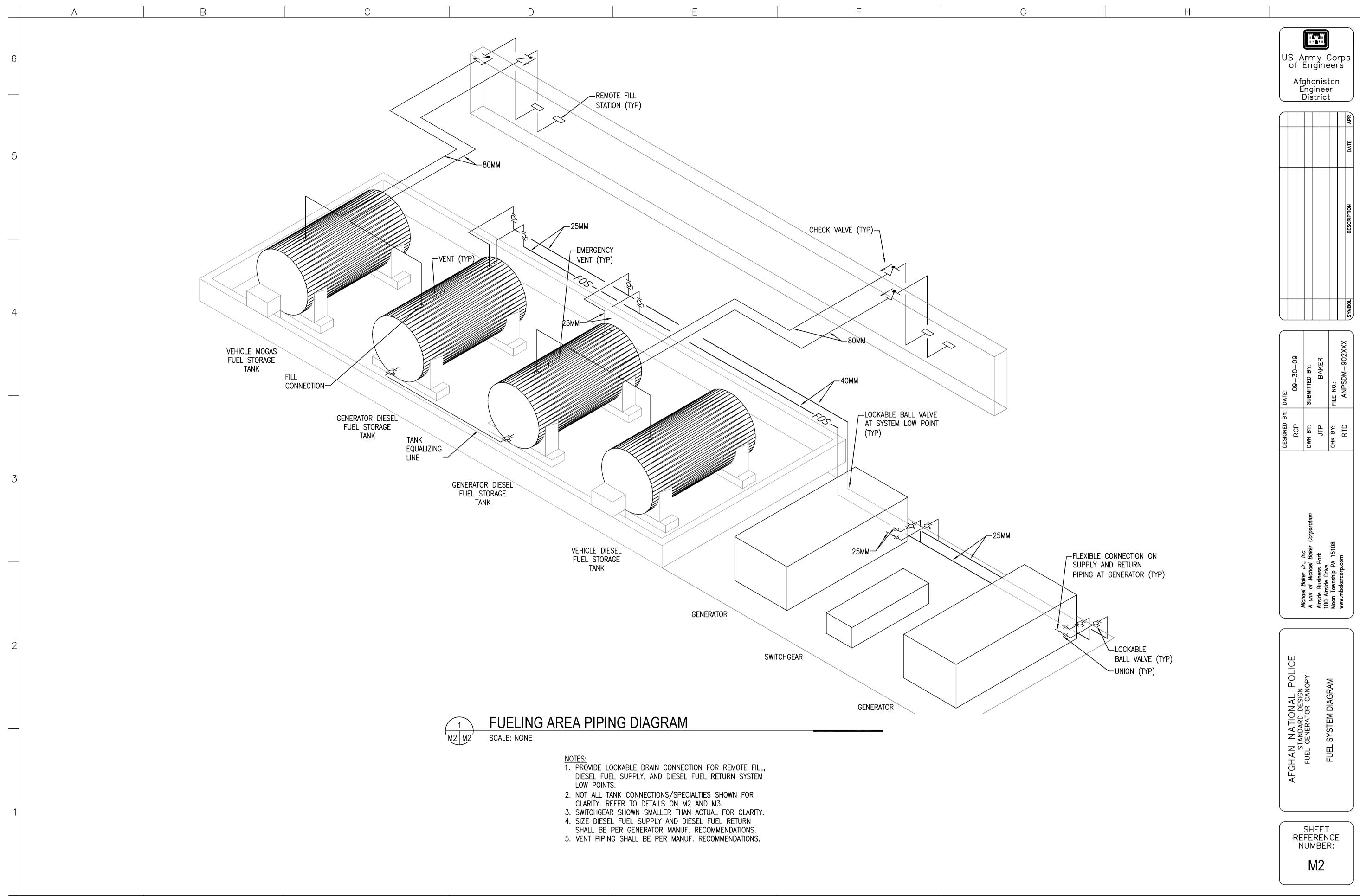
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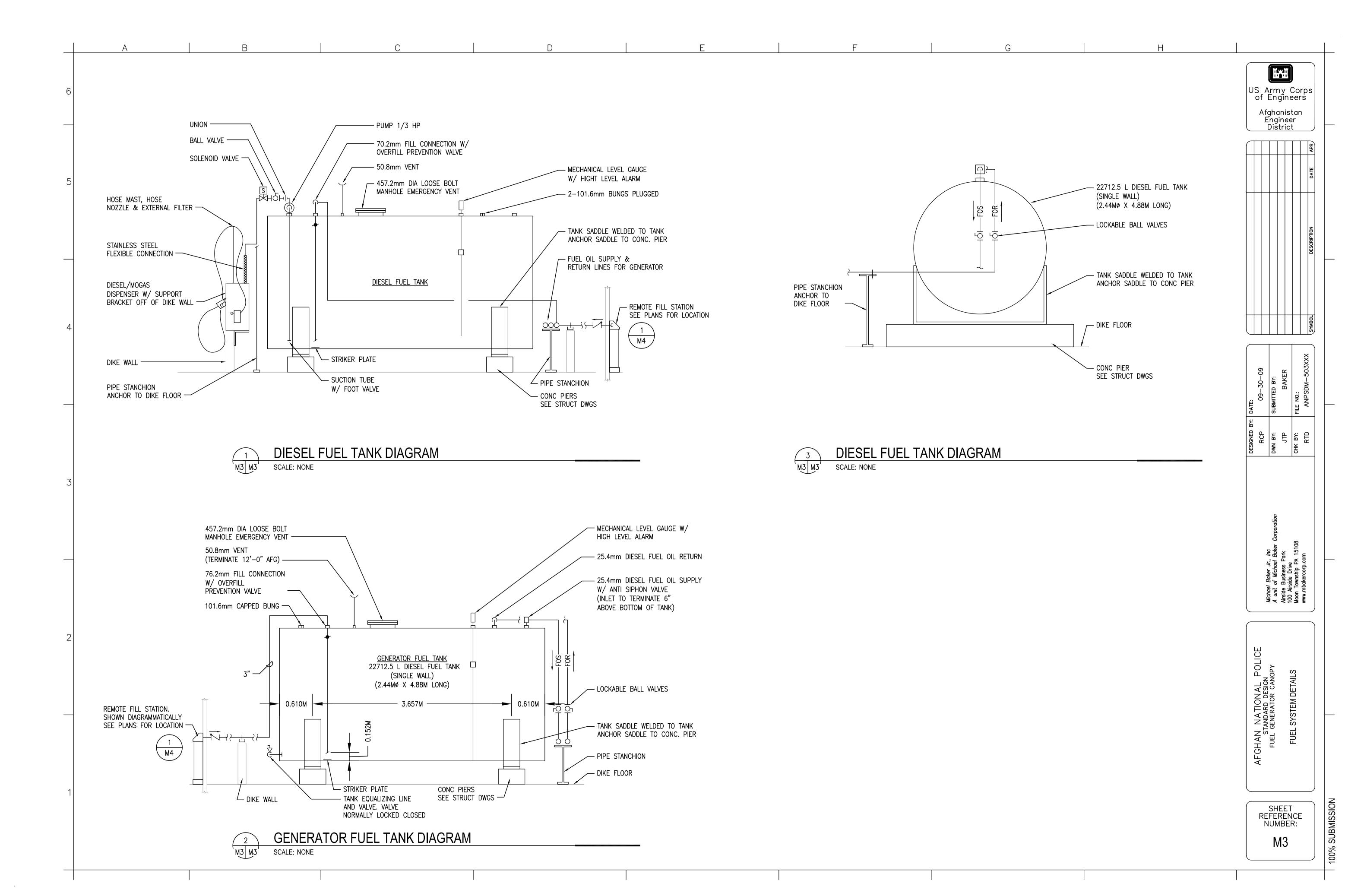
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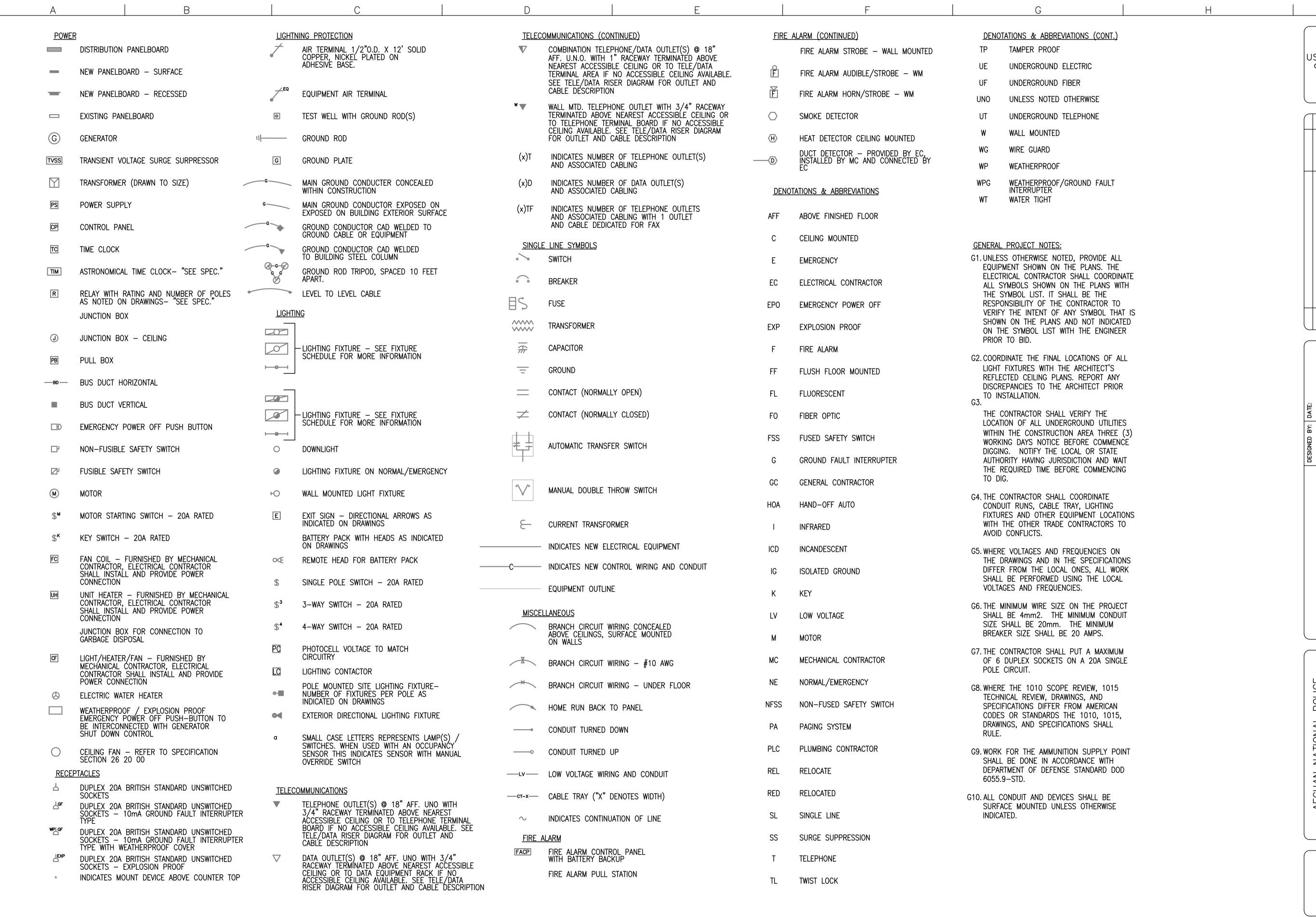


FUEL PIPE SUPPORT DETAIL

SCALE: NTS

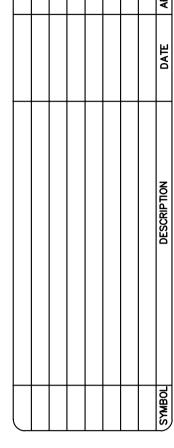
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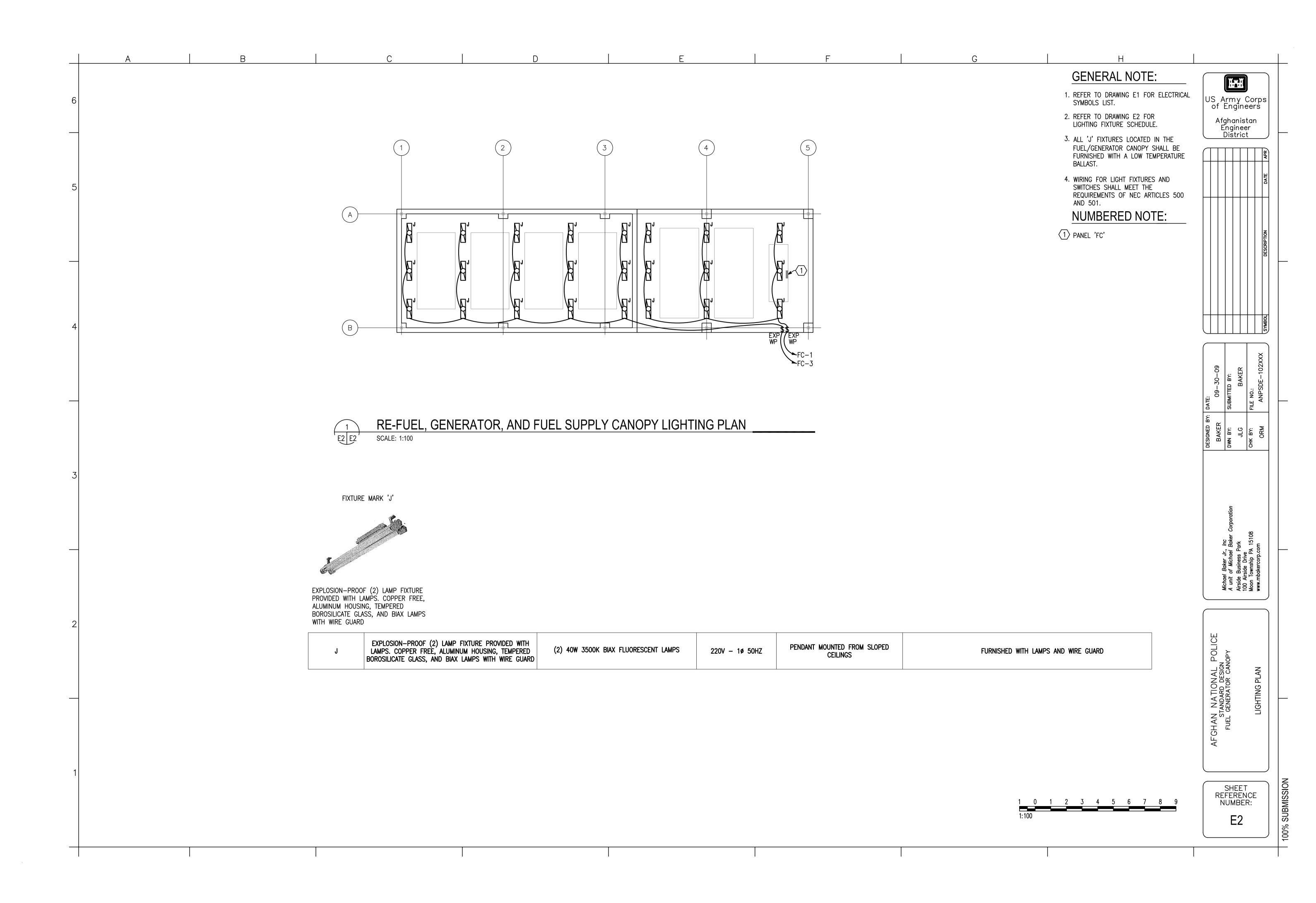
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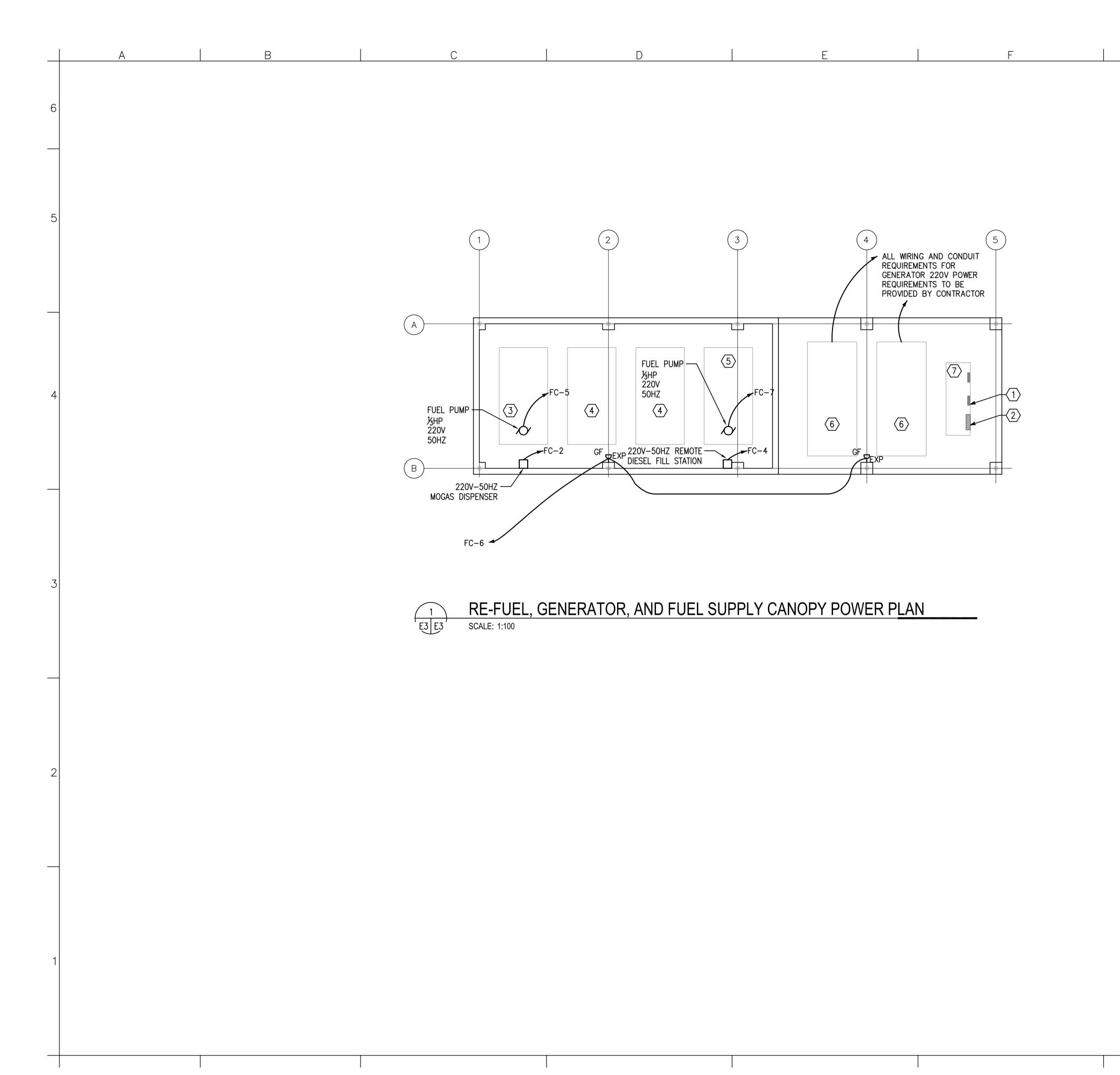
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HAN NATIONAL F STANDARD DESIGN 'UEL GENERATOR CANO AND SYMBOLS ELECT





GENERAL NOTE:

- 1. REFER TO DRAWING #S-E0 FOR ELECTRICAL SYMBOLS LIST.
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN OF THE POWER SYSTEM FOR THE COMPLETE SITE, AS WELL AS THE MAIN DISTRIBUTION PANEL.
- 3. THE DESIGN OF THE FUEL SUPPLY CANOPY LIGHTING AND 220V-1PH POWER SYSTEMS ARE SHOWN AS A MINIMUM REQUIREMENT FOR THE BUILDING. IF ADDITIONAL TANKS, GENERATORS OR OTHER EQUIPMENT IS REQUIRED FOR THE OVERALL POWER DISTRIBUTION SYSTEM, THE LIGHTING AND POWER REQUIREMENTS FOR THE FUEL SUPPLY CANOPY SHALL BE INCREASED ACCORDINGLY.
- 4. RECEPTACLES SHALL BE LOCATED MINIMUM OF 1000MM ABOVE FINISHED FLOOR.
- 5. WIRING FOR RECEPTACLES, FUEL PUMPS, AND FUEL DISPENSER EQUIPMENT SHALL MEET THE REQUIREMENTS OF NEC ARTICLES 500 AND 501.

US Army Corps of Engineers

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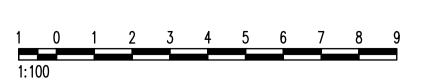
NUMBERED NOTES:

- 1 CANOPY POWER PANEL 'FC'
- $\langle 2 \rangle$ main distribution panel
- 3 MOGAS FUEL TANK
- 4 GENERATOR FUEL TANK
- 5 DIESEL FUEL TANK
- 6 GENERATOR
- (7) SWITCHGEAR

DESIGNED BY: DATE:	DATE:
BAKER	60-02-60
DWN BY:	SUBMITTED BY:
JLG	BAKER
CHK BY:	FILE NO.:
ORM	ANPSDE-103XXX
)

Michael Baker Jr., Inc A unit of Michael Baker Corporation Airside Business Park 100 Airside Drive Moon Township PA 15108 www.mbakercorp.com

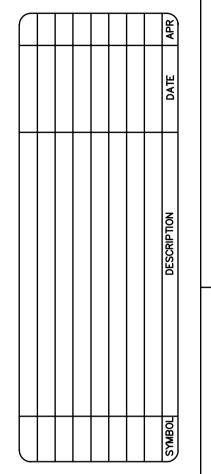
AFGHAN NATIONAL POLICE STANDARD DESIGN FUEL GENERATOR CANOPY POWER PLAN

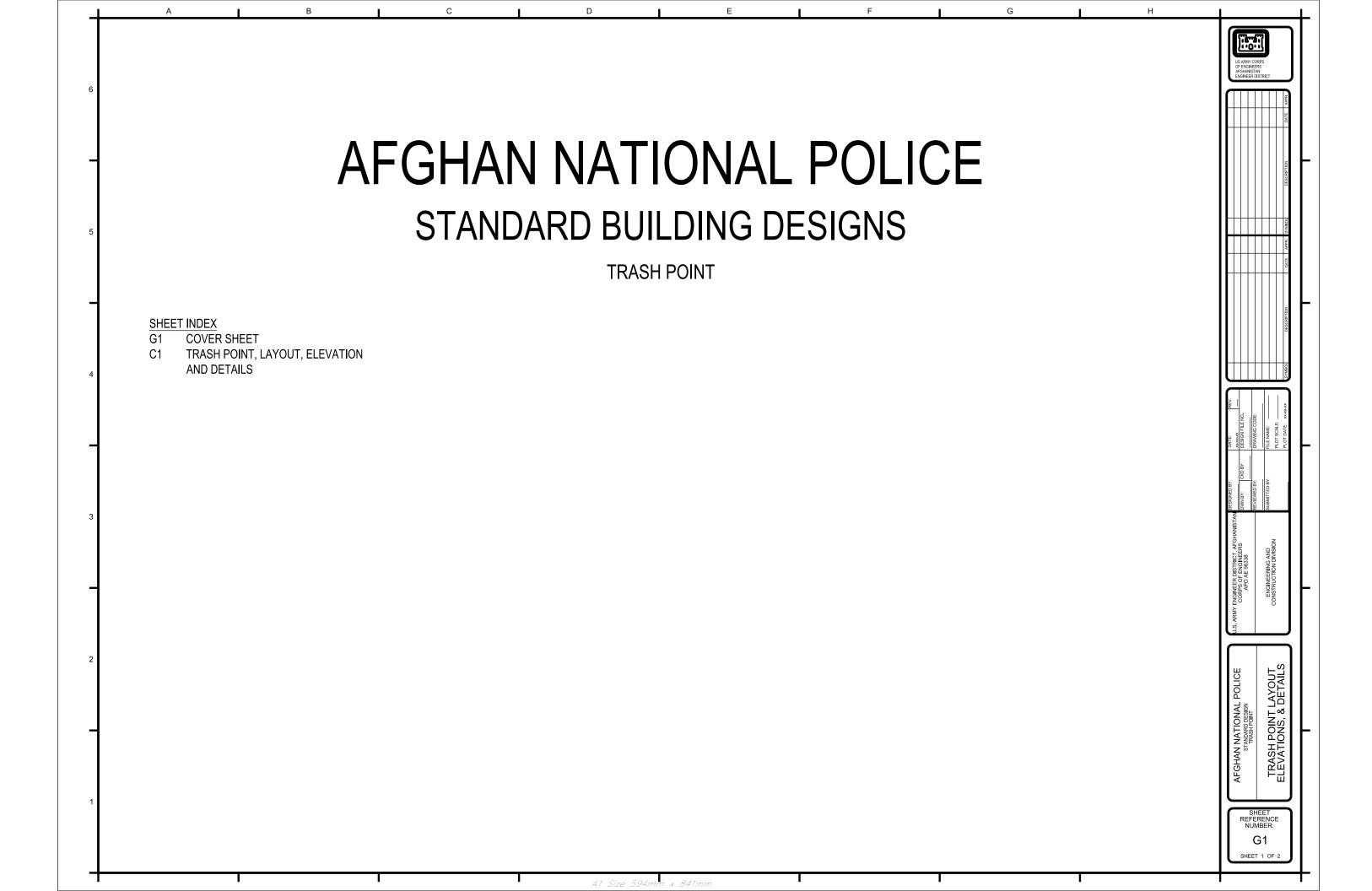


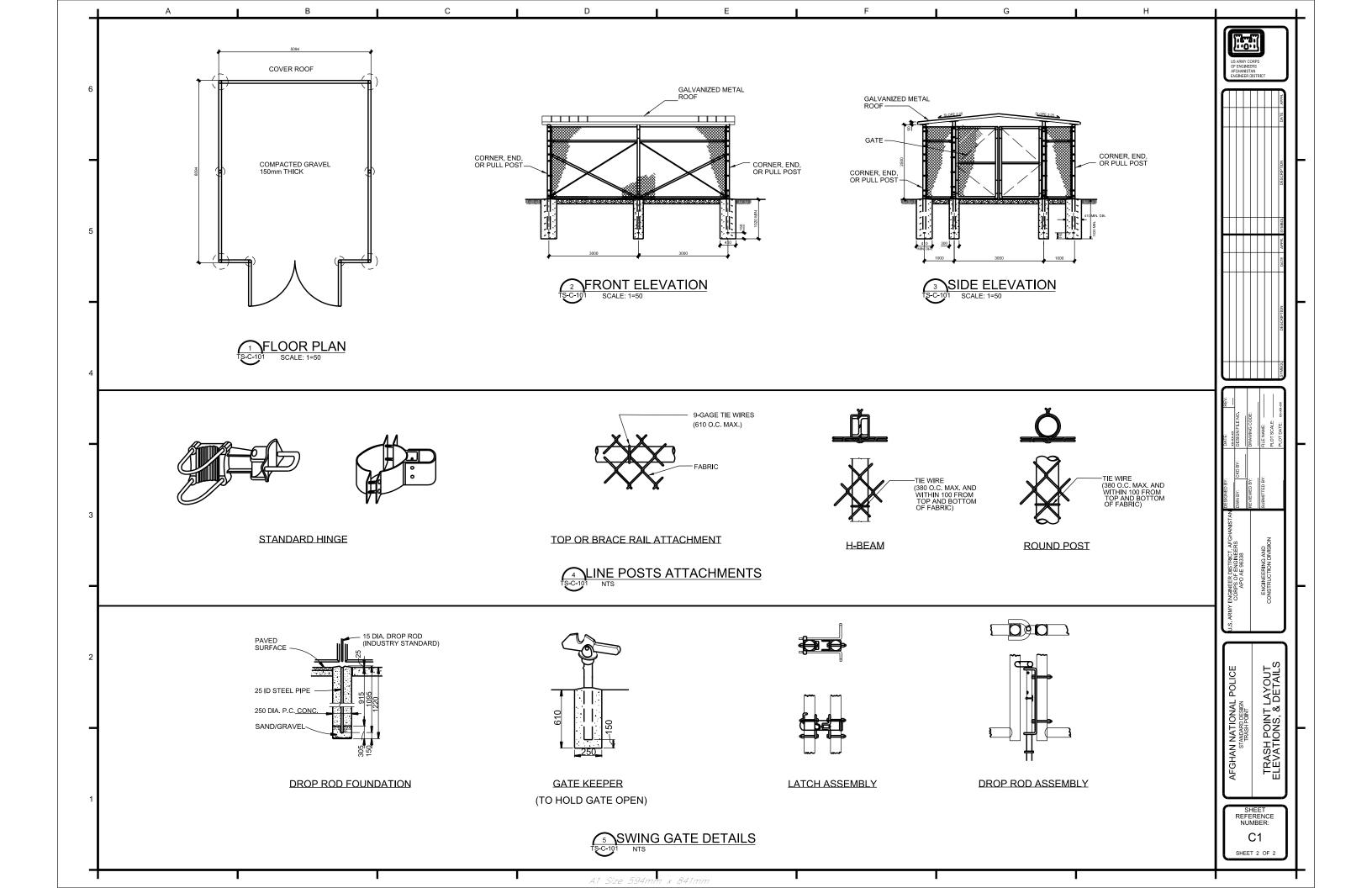
SHEET REFERENCE NUMBER:

E

PANEL LOCATION: FUEL CANOPY US Army Corps of Engineers SURFACE MOUNTED PANELBOARD FC 35,000 ASYM. A.I.C. MIN. NEMA 3R AMP. MAIN LUGS (OR) 200 AMP. MAIN BREAKER W/ AMP. TRIP CIRCUIT BREAKER TYPE 380/220 VOLTS 3 PHASE 4 WIRE 50 HZ 225 AMP. BUS Afghanistan Engineer District CONDUIT GND WIRE S TRIP . LOAD-V.A. LOAD-V.A. LOAD SERVED LOAD SERVED AØ BØ CØ AØ BØ CØ 20 2 MOGAS DISPENSER 20 1 FUEL CANOPY LIGHTING FUEL CANOPY LIGHTING DIESEL FILL STATION 20 4 3 20 1 100 FUEL CANOPY RECEPTS. MOGAS FUEL PUMP 20 6 5 | 20 | 1 | 250 36Ø 7 | 20 | 1 | DIESEL FUEL PUMP 250 SPARE 20 8 20 10 SPARE 9 20 1 SPARE SPARE SPARE 20 12 11 20 1 13 20 1 SPARE SPARE 20 14 SPARE SPARE 20 16 | 15 | 20 | 1 | SPARE 20 18 17 20 1 SPARE SPARE SPARE 20 **20** 19 20 1 20 22 21 20 1 SPARE SPARE SPARE 23 | 20 | 1 SPARE 20 24 20 26 25 20 1 SPACE SPARE SPACE 27 20 1 SPARE 2Ø **28** 29 20 1 SPACE SPARE 20 30 SPACE 31 20 1 SPARE 20 32 SPACE SPACE 20 34 33 20 1 SPACE SPACE **35** 20 1 2Ø **36** SPACE SPACE 2Ø 38 37 20 1 SPACE 39 20 1 SPACE 1 20 40 SPACE SPACE 1 20 42 41 20 1 1750 900 250 100 100 360 TOTAL CONN. LOAD AØ <u>1850</u> BØ <u>1000</u> CØ <u>610</u> PER PHASE (KVA): TOTAL CONN. LOAD 3.46 KVA. _____ % DEMAND = ESTIMATED DEMAND LOAD * MAIN BREAKER SHALL BE EARTH GROUND TYPE AFGHAN NATIONAL POLICE STANDARD DESIGN FUEL GENERATOR CANOPY FUEL CANOPY
PANEL SCHEDULE SHEET REFERENCE NUMBER: E4







AFGHAN NATIONAL POLICE STANDARD BUILDING DESIGNS

WAREHOUSE BUILDING

SHEET INDEX

- G1 COVER SHEET
- S1 GENERAL NOTES & DESIGN CRITERIA
- S2 DESIGN CRITERIA & SCHEDULES
- S3 SCHEDULES
- S4 FOUNDATION & ROOF FRAMING PLANS
- FOUNDATION SECTIONS & DETAILS
- S6 SECTIONS AND DETAILS
- S7 TYPICAL DETAILS
- A1 FLOOR AND ROOF PLANS AND DETAILS
- A2 EXTERIOR ELEVATIONS
- A3 DOOR & WINDOW & FINISH TYPES & DETAILS
- A4 SECTION DETAILS
- E0 ELECTRICAL SYMBOLS AND ABBREVIATIONS
- E1 LIGHTING AND POWER PLAN
- E2 DETAILS
- E3 LIGHT FIXTURE SCHEDULE
- E4 PANEL SCHEDULES AND RISER DIAGRAM



				APR	i .	
				DATE		
				DESCRIPTION		
				SYMBOL	,	

DATE: 09-30-09	SUBMITTED BY:	BAKER	FILE NO.:	ANPSDG-001XXX
DESIGNED BY: DATE:	DWN BY:	SOr	CHK BY:	SOr
	Michael Baker Jr., Inc A unit of Michael Baker Corporation	Airside Business Park 100 Airside Drive	Moon Township PA 15108	www.mbakercorp.com

AFGHAN NATIONAL POLICE STANDARD DESIGN WAREHOUSE BUILDING COVER SHEET

SHEET REFERENCE NUMBER: **G1**

Ξ

REQUIREMENTS OUTLINED IN THE CONTRACT SPECIFICATIONS. WHEN

THERE IS A CONFLICT BETWEEN ACI AND THE SPECIFICATIONS, THE

3.5 CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH

MORE STRINGENT SHALL GOVERN.

20mm x45 DEGREE CHAMFER UON.

UON

W/

VERT

VERTICAL

WIDTH

WITH

UNLESS OTHERWISE NOTED

4.7 PROVIDE CONTROL JOINTS AS INDICATED ON THE ARCHITECTURAL SHEETS.

4.8 GROUT FOR MASONRY SHALL BE NORMAL WEIGHT AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa AT 28 DAYS. GROUT SHALL CONFORM TO ASTM C476. GROUT LIFTS SHALL NOT EXCEED 1400mm

4.9 USE MORTAR TYPE S CONFORMING TO ASTM C270M, SEE SPECIFICATIONS.

4.10 CONCRETE MASONRY UNITS SHALL BE NORMAL WEIGHT AND CONFORM TO ASTM C90.

4.11 ALL CMU CELLS, OPEN CAVITIES, AND AIR SPACES SHALL BE GROUTED TO STOP FRAGMENTS FROM MORTAR BLAST

JOINTS (UON). MAXIMUM CONTROL JOINT SPACING SHALL BE AS INDICATED ON THE ARCHITECTURAL SHEETS. 4.13 CONTRACTOR SHALL COORDINATE LOCATION OF ALL OPENINGS SEE

4.12 BOND BEAM REINFORCING SHALL BE DISCONTINUOUS AT CONTROL

ARCH, MECH, ELEC, AND PLUMBING SHEETS FOR SIZE AND LOCATION OF OPENINGS.

4.14 MASONRY WALLS SHALL NOT BE BACK FILLED PRIOR TO THE MORTAR AND GROUT ATTAINING THEIR RESPECTIVE MAXIMUM DESIGN STRENGTHS PER SPECIFICATIONS.

CFMRF - COLD FORM METAL ROOF FRAMING SYSTEM 5.1 CFMF SHALL BE DESIGNED BY CFMF MANUFACTURER'S ENGINEER

FOR ALL LOADING PER CODE AND AS INDICATED ON THE SHEETS. 5.2 FOR WIND LOADS, SEE THE DESIGN CRITERIA ON SHEET S2.

5.3 SUBMIT VENDOR'S PUBLISHED LITERATURE, TEST DATA AND INSTALLATION INSTRUCTIONS FOR METAL STUD ASSEMBLY AND ACCESSORIES INCLUDING OTHER DATA AS MAY BE REQUIRED TO CERTIFY COMPLIANCE WITH PERFORMANCE REQUIREMENTS SPECIFIED HEREIN.

5.4 SHOP DRAWINGS AND DESIGN ANALYSIS SHALL BE STAMPED AND APPROVED BY A LICENSED PROFESSIONAL ENGINEER.

CONNECTIONS AND GAUGE SIZES ARE MINIMUM AND SHALL BE INCREASED AS NECESSARY TO PROVIDE A STRUCTURALLY ADEQUATE SYSTEM. KICKERS MAY BE ADDED TO REDUCE THE STUD HEIGHTS WHERE ACCEPTABLE AND COORDINATED WITH THE ARCHITECTURAL DRAWINGS.

5.6 CRMRF SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

STUD/RAFTER/EAVE STRUT/BRACE/BLOCKING: Fv = 344 MPaGAUGE = 18DEPTH = 152.3 mmWIDTH = 34.8 mmMOMENT OF INERTIA, Ix = 847x10³ mm⁴ SECTION MODULUS, $Sx = 11.2 \times 10^3 \text{ mm}^3$

Fv = 344 MPaGAUGE = 16DEPTH = 152.3 mmWIDTH = 38 mmMOMENT OF INERTIA, $Ix = 1083 \times 10^3 \text{ mm}^4$ SECTION MODULUS, $Sx = 13.8 \times 10^3 \text{ mm}^3$

PURLIN: $F_V = 393 \text{ MPa}$ GAUGE = 16

4.6 PROVIDE LADDER TYPE JOINT REINFORCEMENT AT 200 EXTERIOR, &

UON.

400 INTERIOR ON CENTER MAXIMUM, UON MINIMUM ROD SIZE USED

SHALL BE 9 GA. DEFORMED WIRE AND CONFORM TO ASTM A82M.

MOMENT OF INTERTIA (TOP COMPRESSION), Ixt = 23.7x10³ mm⁴ MOMENT OF INTERTIA (BOTT COMPRESSION), $lxb = 22.7x10^3 \text{ mm}^4$ SECTION MODULUS (TOP COMPRESSION), $Sxt = 1.8x10^3 \text{ mm}^3$ SECTION MODULUS (BOTT COMPRESSION), $Sxb = 1.7x10^3 \text{ mm}^3$

STRUCTURAL DESIGN CRITERIA

ALL DESIGNS SHALL CONFORM TO THE PROVISIONS OF THE IBC 2006 AS APPLICABLE

1.0 DESIGN LOADS

1.1 DEAD LOADS

1.1.1 ROOF DEAD LOADS — CONCRETE FRAMING

	MAXIMUM
	GRAVITY LOAD
CONC FLAT SLAB MECH/ELEC/PLUMBING MISC	4.80 KPa 0.15 KPa 0.05 KPa 5.00 KPa

1.1.2 ROOF DEAD LOADS — CONVENTIONAL LIGHT FRAMING

	MAXIMUM GRAVITY LOAD	MINIMUM GRAVITY LOAI
LIGHT GAUGE FRAMING INSULATION METAL ROOFING	0.20 KPa 0.10 KPa 0.14 KPa	0.15 KPa 0.05 KPa 0.05 KPa
	0.44 KPa	0.25 KPa

1.2 LIVE LOADS (PER IBC 2006)

1.2.1 ROOF LIVE LOADS: ALL BUILDINGS GREATER OF 1.0 KPa MINIMUM OR SNOW LOAD

1.2.2 ELEVATED FLOOR UNIFORM LIVE LOADS

OFFICE 2.40 KPa CORRIDOR 4.80 KPa

1.2.3 SLAB-ON-GRADE LIVE LOADS

ALL BUILDINGS 4.80 KPa

1.3 SNOW LOADS (PER IBC 2006)

1.3.1 DESIGN PARAMETERS

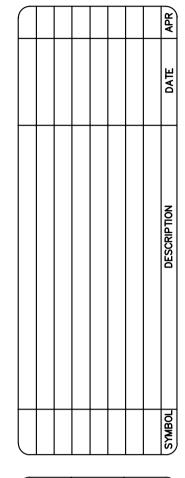
GROUND SNOW LOAD (per UFC 3-310-01) 1.0 KPa SNOW IMPORTANCE FACTOR 1.0 1.0 SNOW EXPOSURE FACTOR

1.4 SEISMIC LOADS (PER IBC 2006 & UFC 3-310-04)

1.4.1 SEISMIC PARAMETERS - CAST-IN-PLACE CONCRETE STRUCTURES

SEISMIC OCCUPANCY CATEGORY	
SEISMIC IMPORTANCE FACTOR (I)	1.0
SEISMIC SITE CLASS	D
Ss	1.28
S1	0.51
Sds	0.853
Sd1	0.51
SEISMIC DESIGN CATEGORY	D
SEISMIC RESISTING SYSTEM	SPECIAL REINFORCED MASONRY
	SHEAR WALLS
RESPONSE MODIFICATION FACTOR (R)	5.0
RESPONSE COEFFICIENT (CS)	0.17
SEISMIC ANALYTICAL PROCEDURE	EQUIV LATERAL FORCE
SEISMIC BASE SHEAR	209kN





	DESIGNED BY: DATE:	DATE:
Michael Rober in Inc	KMP	09-30-09
A unit of Michael Baker Corporation	DWN BY:	SUBMITTED BY:
Airside Business Park 100 Airside Drive	RCG	BAKER
Moon Township PA 15108	CHK BY:	FILE NO.:
www.mbakercorp.com	CWW	ANPSDS-001XXX

CRITERIA IAN NATIONAL STANDARD DESIGN WAREHOUSE BUILDING ⋖ NOTES

STRUCTURAL DESIGN CRITERIA (CONT)

ALL DESIGNS SHALL CONFORM TO THE PROVISIONS OF THE IBC 2006 AS APPLICABLE

1.6 WIND LOADS (PER IBC 2006)

1.6.1 DESIGN PARAMETERS

BASIC WIND SPEED	137 Km/h
WIND IMPORTANCE FACTOR	1.0
WIND EXPOSURE CATEGORY	D
DIRECTIONALITY COEFFICIENT (Kd)	0.85
TOPOGRAPHIC FACTOR (Kzt)	1.0

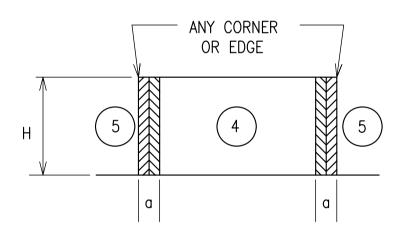
1.6.2 DESIGN WIND PRESSURE - MAIN WINDFORCE RESISTING SYSTEM

LOCATION	CORNER ZONE WIDTH "a"	MEAN ROOF HEIGHT (h)	WINDWARD WALL (@ MEAN ROOF HEIGHT)	LEEWARD WALL (@ MEAN ROOF HEIGHT)	ROOF
FIELD ZONE	N/A	4080mm	680 N/m ²	-480 N/m ²	-470 N/m ²
CORNER ZONE	1440mm	4080mm	800 N/m ²	-418 N/m ²	-750 N/m ²

- a = 10% OF LEAST HORIZONTAL DIMENSION OR 0.4h, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4% OF LEAST HORIZONTAL DIMENSION OR 0.9M.
- h = MEAN ROOF HIEGHT, IN METERS, EXCEPT THAT EAVE HIEGHT SHALL BE USED FOR ANGLE GREATER THAN 10°.

1.5.3 DESIGN WIND PRESSURE - WALL COMPONENTS AND CLADDING

EXTERIOR WALL SYSTEMS & THEIR ATTACHMENTS TO THE PRIMARY STRUCTURE SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE DIAGRAM BELOW:



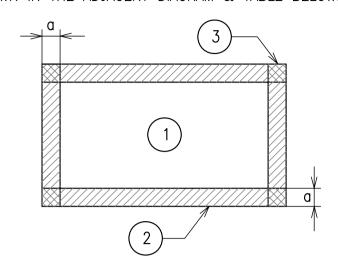
LOCATION	WINDWARD N/m ²	PRESSURE (inward)	LEEWARD N/m² (а	
	4	5	4	5	-
MAIN BUILDING					(mm)
$AREA = 1 m^2$	788	788	-850	-1050	1440
$AREA = 2 m^2$	748	748	-815	-967	1440
$AREA = 5 m^2$	700	700	-765	-880	1440
$AREA = 10 \text{ m}^2$	648	648	-715	-750	1440

NOTES

- 1. DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
 PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

1.6 WIND LOADS (CONT)

1.6.4 DESIGN WIND PRESSURE — ROOF COMPONENTS AND CLADDING ROOF COMPONENTS & THEIR ATTACHMENTS SHALL BE DESIGNED FOR THE PRESSURES SHOWN IN THE ADJACENT DIAGRAM & TABLE BELOW:



ROOF MEAN HEIGHT

LOCATION	GROS	а		
	1	2	3	-
MAIN BUILDING				(mm)
$AREA = 1 m^2$	-787	-931	-1738	1440
$AREA = 2 m^2$	-787	-931	-1738	1440
$AREA = 5 m^2$	-787	-931	-1738	1440
$AREA = 10 m^2$	-787	-931	-1738	1440

NOTES

- 1. DESIGN WIND PRESSURES ABOVE REPRESENT THE NET PRESSURE (SUM OF INTERNAL AND EXTERNAL PRESSURE) APPLIED NORMAL TO ALL SURFACES.
- LINEAR INTERPOLATION BETWEEN VALUES OF TRIBUTARY AREA IS PERMISSIBLE.
 PLUS AND MINUS SIGNS SIGNIFY PRESSURE TOWARD AND AWAY FROM THE EXTERIOR SURFACE, RESPECTIVELY.

2.0 FOUNDATION DESIGN CRITERIA (TO BE CONFIRMED BY THE CONTRACTOR)

SEISMIC SITE CLASS (based on in-situ soil)

THE GEOTECHNICAL ANALYSIS FOR THIS PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR AWARDED THE WORK. DESIGN VALUES USED IN THE STRUCTURAL ANALYSIS OF THE BUILDINGS HEREIN INDICATED HAVE BEEN ASSUMED AND SHALL BE CONFIRMED AND VERIFIED AS PART OF THE GEOTECHNICAL INVESTIGATION. VALUES WHICH DO NOT MEET THE REQUIREMENTS INDICATED BELOW SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER FOR CONSIDERATION AND DETERMINATION ON THE NEXT APPROPRIATE COURSE OF ACTION.

2.1.1 SOIL DESIGN PARAMETERS

NET ALLOWABLE SOIL BEARING CAPACITY	96.0 KPa
UNIT WEIGHT OF SOIL (moist)	1800 Kg/m ³
COEFF ACTIVE EARTH PRESSURE (Kpa)	0.30
COEFF PASSIVE EARTH PRESSURE (Kpp)	3.33
COEFF AT-REST EARTH PRESSURE (Kpr)	.55
COEFF OF SOIL FRICTION	.35
SUBGRADE MODULUS	4120 g/cm ³
MINIMUM BEARING DEPTH BELOW GRADE	800mm

CONCRETE BEAM SCHEDULE

GRADE BE	EAM							
MARK	SIZE		REINFORCING			DEMADIZO		
MARK	(BxH)	TOP	воттом	STIRRUPS	MIDBAR	REMARKS		
GB1	400x750	(3)-#22	(3)-#22	#13 @ 200	(1) #22 EF	TOP BAR LAP AT CENTER BOT BAR LAP PAST COL		
ROOF BEA	λM							
MARK	SIZE REINFORCING				REMARKS			
IVIAIN	(BxH)	TOP	ВОТТОМ	STIRRUPS	MIDBAR	NLIWIANNO		

(2)-#19 | #13 @ 250 | N/A

NOTE:

400x600 (2)-#19

1. DIMENSIONS NOTED ARE MILLIMETERS (mm) UON.

CONCRETE COLUMN SCHEDULE

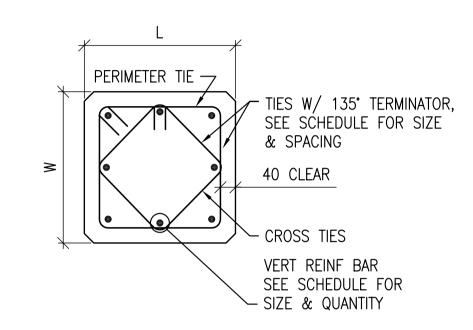
MARK	SIZE		REINFORCING				
MARK	(LxW)	VERT BARS	TIES				
C1	400x400	(8)-#25	#13 @ 100 (CORE OF EXT & CORNER COLUMNS) #13 @ 150 (CORE OF INTERIOR COLUMNS) #13 @ 200 (OTHER)				

NOTE:

TOP BAR LAP AT CENTER

BOT BAR LAP PAST COL

- 1. DIMENSIONS NOTED ARE MILLIMETERS (mm) UON.
 2. SECOND STORY COLUMNS ARE SAME AS FIRST STORY COLUMNS.
 3. CORE INDICATES THE AREA OF COLUMN & BEAM INTERSECTION.
- 4. TIE INDICATES PERIMETER & CROSS TIE COMBINED.





SPREAD FOOTING SCHEDULE								
MARK FOOTING SIZE (mm) FOOTING REINFORCING REMARKS								
	LENGTH	WIDTH	THICKNESS					
F1	1700	1700	300	(6)-#16 EW BOTT				
F2	1800	1800	300	(6)-#16 EW BOTT				

NOTES:

1. DIMENSIONS NOTED ARE MILLIMETERS (mm) UON.



				DESCRIPTION
				SYMBOL
_				

Michael Baker Jr., Inc A unit of Michael Baker Corporation Airside Business Park 100 Airside Drive Moon Township PA 15108

AFGHAN NATIONAL POLICE
STANDARD DESIGN
WAREHOUSE BUILDING
DESIGN CRITERIA & SCHEDULES

SHEET REFERENCE NUMBER:

BER: **2**

f'c = 28 MPa CONCRETE									
CENTER TO	(TOP	BARS)	(OTHER BARS-)				
CENTER BAR BAR SPACING SIZE	LESS THAN 4db	4db OR MORE	LESS THAN 4db	4db OR MORE	4db				
#10	460	460	410	410	40				
#13	660	610	510	480	50				
#16	1020	760	790	580	60				
#19	1450	910	1120	710	80				
#22	1960	1090	1500	840	90				
#25	2590	1450	1980	1120	100				
#29	3280	1830	2510	1420	110				
#32	4140	2340	3200	1780	130				
#36	5080	2840	3910	2180	140				

CONCRETE MATERIALS

SCHEDULE

1. ALL CONCRETE SHALL BE NORMAL WEIGHT

CONCRETE. (2400 Kg/m³ UON)

WATER-CEMENT RATIO OF 0.45.

2. ALL CONCRETE SHALL HAVE A MAX

STRUCTURAL

ELEMENT

SLAB-ON-GRADE/TURN-DOWN SLABS

ROOF AND FLOOR SLABS

ALL FOOTINGS (UON)

MISC. CURBS, WALLS

CAST-IN-PLACE LINTEL

CONCRETE FRAMING -

BEAMS AND COLUMNS

AND PADS (UON)

NOTES:

- LAP SPLICES ABOVE ARE IN MILLIMETERS UON. 2. YIELD STRENGTH OF REINFORCEMENT, fy, IS 420MPa (LAP SPLICE LENGTH IS IN MILLIMETERS).
- 3. CONCRETE IS NORMAL WEIGHT (2400Kg/m³). 4. TOP BAR INDICATES HORIZONTAL REINFORCEMENT WHICH IS PLACED ABOVE 300mm OR MORE OF
- FRESH CONCRETE. 5. SEE COLUMN SCHEDULE FOR COLUMN AND SHEAR WALL VERTICAL LAP SPLICE.
- STRAIGHT DEVELOPMENT LENGTH OF AN UNLAPPED BAR IS EQUAL TO VALUE FROM TABLE DIVIDED BY 1.3. CATEGORY FOR BARS SPACED LESS THAN 4d, OR ON CENTER CORRESPONDS TO CATEGORY 1 IN THE CRSI HANDBOOK WHEREAS FOR BARS SPACED 4d, OR MORE ON CENTER

CORRESPOND TO CRSI CATEGORY 5.

f'c

CONCRETE

COMPRESSIVE

STRENGTH @

28 DAYS

(MPa)

28

28

28

28

28

28

CONCRETE COVER SCHEDULE

MINIMUM CONCRETE COVER PROTECTION FOR REINFORCEMENT BARS SHALL DIMENSIONS FOR BAR PLACEMENT GIVEN IN SECTIONS AND DETAILS SHALL

FOOTINGS (EARTH FORMED)	70
COLUMNS / PIERS (TO TIES)	40
GRADE BEAMS OR SLAB TURNED DOWN EDGES:	
TOP BOTTOM (EARTH FORMED) SIDES (EARTH FORMED)	40 70 70

40 50 ELEVATED BEAMS & SLABS: BEAM TIES & STIRRUPS (NOT EXPOSED TO WEATHER) 40 50 BEAM TIES & STIRRUPS (EXPOSED TO WEATHER) FLOOR SLABS (NOT EXPOSED TO WEATHER) FLOOR SLABS (EXPOSED TO WEATHER) 50 #19 & LARGER #13 & SMALLER 40

SLABS-ON-GRADE (EXPOSURE TO WEATHER) FROM TOP

ROOF SLAB BARS

STANDARD HOOKS

IN TENSION PER

(ACI 318M - 05)

HOOK DEVELOPMENT LENGTH Ldh

f'c 28 MPa

180

250

300

380

430

480

560

610

690

BAR SIZE

#10

#13

#16

#19

#22

#25

#29

#32

#36

UTILITY TUNNEL WALLS, RETAINING WALLS AND SHEAR WALLS, (NO SURFACES SHALL BE EARTH FORMED) EARTH SIDE AND FRONT SIDE (EXPOSED TO WEATHER):

#19 THRU #36 BAR

PROVIDE STANDARD BAR CHAIRS AND SPACERS AS REQUIRED TO MAINTAIN CONCRETE PROTECTION SPECIFIED.

BE AS FOLLOWS: (SEE ACI 318M-05, SECTION 7.7 FOR CONDITIONS NOT NOTED) SUPERSEDE MINIMUM COVER REQUIREMENTS GIVEN HERE. DIMENSIONS ARE IN mm.

FOOTINGS (EARTH FORMED)	70
COLUMNS / PIERS (TO TIES)	40
GRADE BEAMS OR SLAB TURNED DOWN EDGES:	
TOP	40
BOTTOM (EARTH FORMED)	70

#16 BAR & SMALLER #19 THRU #36 BAR SIDES (BOARD FORMED)

SLABS-ON-GRADE (NO EXPOSURE TO WEATHER) FROM TOP

#16 BAR AND SMALLER

— HOOK EXTENSION ∨ PER ACI 318M−05 ∠HOOK DEVELOPMENT LENGTH, Ldh

NOTES:

- 1. CONCRETE IS NORMAL WEIGHT CONCRETE. 2. BAR YIELD STRENGTH, fy = 420 MPa
- 3. SIDE COVER REQUIREMENTS OF ACI SECT. 12.5.3 ARE ASSUMED TO NOT BE MET.
- 4. TIE OR STIRRUP REQUIREMENTS OF ACI SECT. 12.5.3 ARE ASSUMED TO NOT BE MET.
- 5. REDUCTION FOR EXCESS REINFORCEMENT IS NOT TAKEN.
- 6. HOOK DEVELOPMENT LENGTH IS VALID FOR 180° HOOKS ALSO.

MASONRY CONCRETE LINTEL SCHEDULE

OPENING TYPE OR SIZE, BEAM LOCATION OR	MAX SPAN	BEAM DEPTH	MAIN REINFORCING		ING	CLIEAD DEINE CTIDDUDC	
TYPE	(mm)	(mm)	TOP	воттом	OTHER	SHEAR REINF STIRRUPS	
EXT WINDOW OR DOOR	900	400	(2)-#13	(2)-#13			
INT WALL OPENING, NON-BEARING	1800	400		(2)-#13			
INT WALL OPENING, NON-BEARING	900	200		(2)-#13			

- 1. STRUCTURAL DRAWINGS DO NOT INDICATE ALL OPENINGS IN MASONRY WALLS. VERIFY NUMBER, SIZE AND LOCATION OF ALL OPENINGS IN MASONRY WALLS FROM ARCHITECTURAL DRAWINGS AND APPROVED PLUMBING, MECHANICAL, AND ELECTRICAL SHOP DRAWINGS.
- 2. PROVIDE 200mm BEARING EA END FOR 200mm DEEP MASONRY LINTEL. PROVIDE
- 400mm BEARING EA END FOR 400mm DEEP MASONRY LINTEL. 3. FOR HEAD DETAILS REFER TO ARCHITECTURAL DRAWINGS.
- 4. REINFORCING SHALL BE ASTM A615M, GRADE 420. CONCRETE FOR CAST-IN-PLACE BEAMS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 28 MPa AT 28 DAYS.
- 5. CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS AND SCHEDULES SHOWING SIZE, DETAILS, LOCATIONS, ETC FOR ALL CAST-IN-PLACE BEAMS IN CMU

TYPICAL CMU WALL REINFORCING SCHEDULE

WALL TYPE	THICKNESS REINF.	CONT. VERT.	CONT. CAS	T IN PLACE LIN	NTEL (CIP BB)	DELUDIO
WALL TYPE OR LOCATION		REINF. (CENTERED IN CMU, UON)	DEPTH (mm)	REINF (BOTT UON)	MAX CIPL VERT SPACING (mm)	REMARKS
ALL PERIMETER/EXTERIOR WALLS (UON)	200	1-#16 @ 800	200	2-#16	1200	
NON-LOAD BEARING INTERIOR WALLS WITH TOP AND BOTT. SUPPORTS	200	1-#13 @ 1200	200	2-#16	1200	

25

20

40

50

- 1. REINFORCING SIZES AND SPACING GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE THE ABOVE SCHEDULE REQUIREMENTS.
- 2. PROVIDE CONTINUOUS CAST IN PLACE CONCRETE BOND BEAM AT ALL WALL LATERAL SUPPORT LOCATIONS.
- 3. REINFORCING INDICATED SHALL BE CONTINUOUS FOR FULL EXTENT OF SPLICE FOLLOWING THE REQUIREMENTS OF THE LAP SPLICE TABLE SHOWN ON THIS
- 4. WALLS HAVE BEEN DESIGNATED AS VERTICALLY SPANNING UON AND THEREFORE MUST BE TEMPORARILY SUPPORTED DURING CONSTRUCTION UNTIL THE SUPPORTING DIAPHRAGMS (FLOOR AND ROOF SYSTEMS) HAVE BEEN COMPLETELY INSTALLED. SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 5. ALL CMU WALLS SHALL BE FULLY GROUTED IN LIFTS NOT EXCEEDING THOSE BY CODE (UON)

#25

BETWEEN SUPPORTS

6. SEE TYPICAL CMU WALL DETAILS ON SHEET S7.

	MAS	ONRY REINFORCING						
MINIMUM LAP SPLICES								
	BAR SIZE	BASIC LAP SPLICE Ld FOR CMU REINFORCING						
	#10	450						
	#13	600						
	#16	750						
	#19	900						
	#22	1050						
		·						

MAXIMUM CMU	J WALL	UNSUPPORTED	HEIGHT OR				
LENGTH							
	WALL THICKNESS (mm)	EXTERIOR WALL NON-LOAD BEARING (mm)	INTERIOR NON—LOAD BEARING WALL (mm)				
MAX HEIGHT OR LENGTH	200	4800	7200				

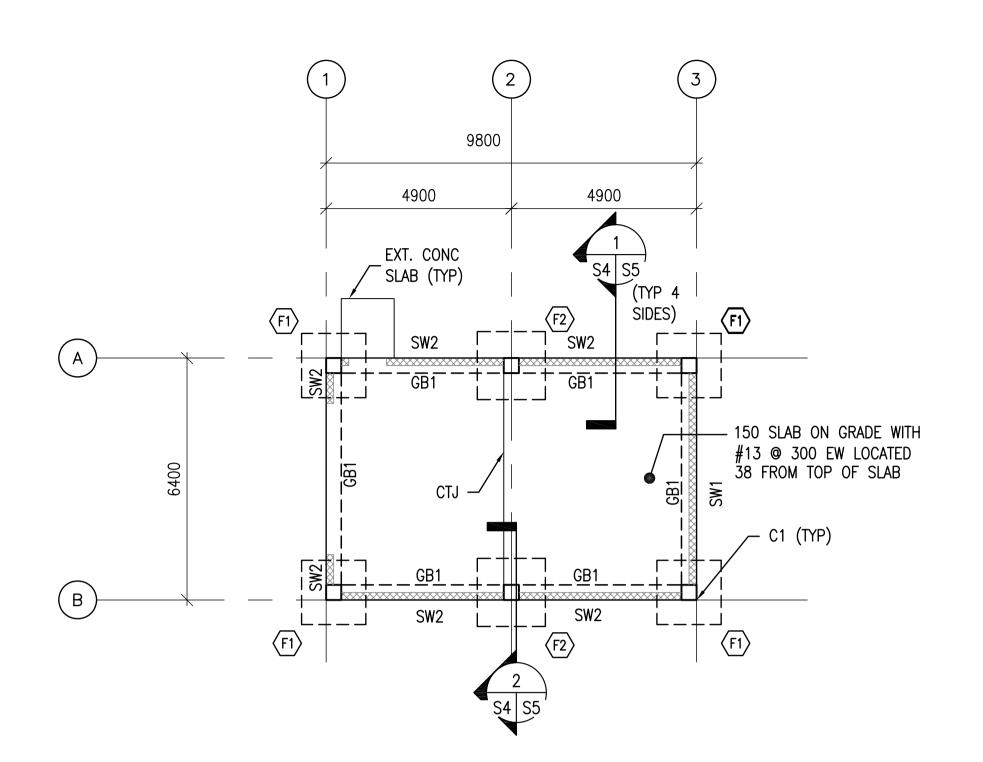
1200

NOTE: CMU WALL MAXIMUM LATERAL SUPPORT SPACING GIVEN IN SECTIONS AND DETAILS SHALL SUPERSEDE THE ABOVE SCHEDULE REQUIREMENTS.

HAH US Army Corps of Engineers Afghanistan Engineer District

				APR	
				DATE	
				DESCRIPTION	
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1AN NATIONAL F STANDARD DESIGN WAREHOUSE BUILDING





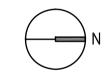


FOUNDATION PLAN NOTES:

- 1. FINISH FIRST FLOOR ELEVATION SHALL BE (DATUM 0.0). ALL PLUS OR MINUS DIMENSIONS INDICATED ON PLAN OR REFERRED TO IN NOTES RELATE TO FINISH FIRST FLOOR ELEVATION.
- 2. TOP OF EXTERIOR FOOTINGS SHALL BE -950 UNLESS OTHERWISE INDICATED. 3. SPREAD FOOTINGS INDICATED BY F# ON PLAN. REFER TO SPREAD FOOTING
- SCHEDULE ON SHEET S2.
- 4. COLUMNS INDICATED THUS C# ON PLAN. REFER TO COLUMN SCHEDULE ON SHEET S2.
- REFER TO DRAWINGS S1TO S3 FOR STRUCTURAL NOTES AND BASIS OF DESIGN. 6. CTJ & CSJ INDICATES SLAB CONTROL OR CONSTRUCTION JOINTS. RESPECTIVELY,
- REFER TO SHEET S7 FOR DETAILS.
- 7. SEE CMU WALL REINFORCING SCHEDULE ON SHEET S3.
- 8. REFER TO ARCHITECTURAL SHEETS FOR MASONRY PARTITION TYPES.
- 9. SEE MECHANICAL AND ELECTRICAL SHEETS FOR CONCRETE PAD LOCATIONS, SIZES, AND THICKNESS NOT SHOWN. SEE SHEET S7 FOR DETAILS.

600 (TYP) _ C1 (TYP) – EDGE OF ROOF SLAB (TYP 4 SIDES) ─200 ROOF SLAB WITH #13 @ 200 EW T&B (TYP) SLAB EXTERIOR CORNER— REINFORCING (TYP)
SEE DETAIL ON SHEET S7





PLAN NOTES:

- 1. TOP OF SLAB ELEVATION = 3600 UNLESS NOTED OTHERWISE
- 2. RB# DENOTES ROOF BEAM TYPE. SEE BEAM SCHEDULE ON SHEET S2.
- 3. REFER TO SHEETS S1 TO S3 FOR STRUCTURAL NOTES AND BASIS OF DESIGN.
- 4. COORD W/ ARCHITECTURAL SHEETS FOR COLD-FORMED STEEL OVERBUILT FRAMING ABOVE ROOF SLAB.
- 5. COLD-FORMED METAL OVERBUILT ROOF FRAMING NOT SHOWN FOR CLARITY. SEE OVERBUILT ROOF FRAMING DETAILS AND SECTIONS ON SHEET S6



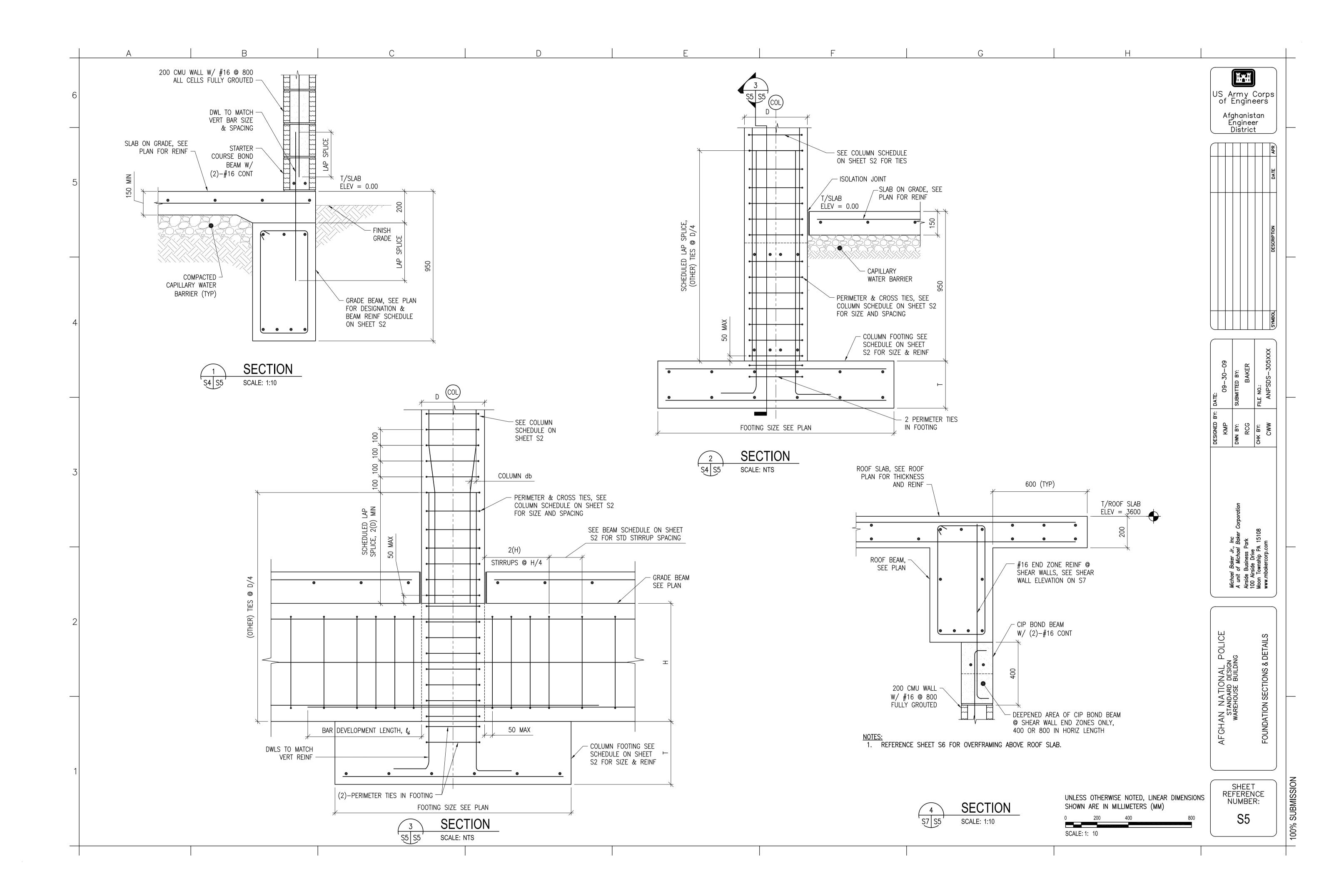
		APR
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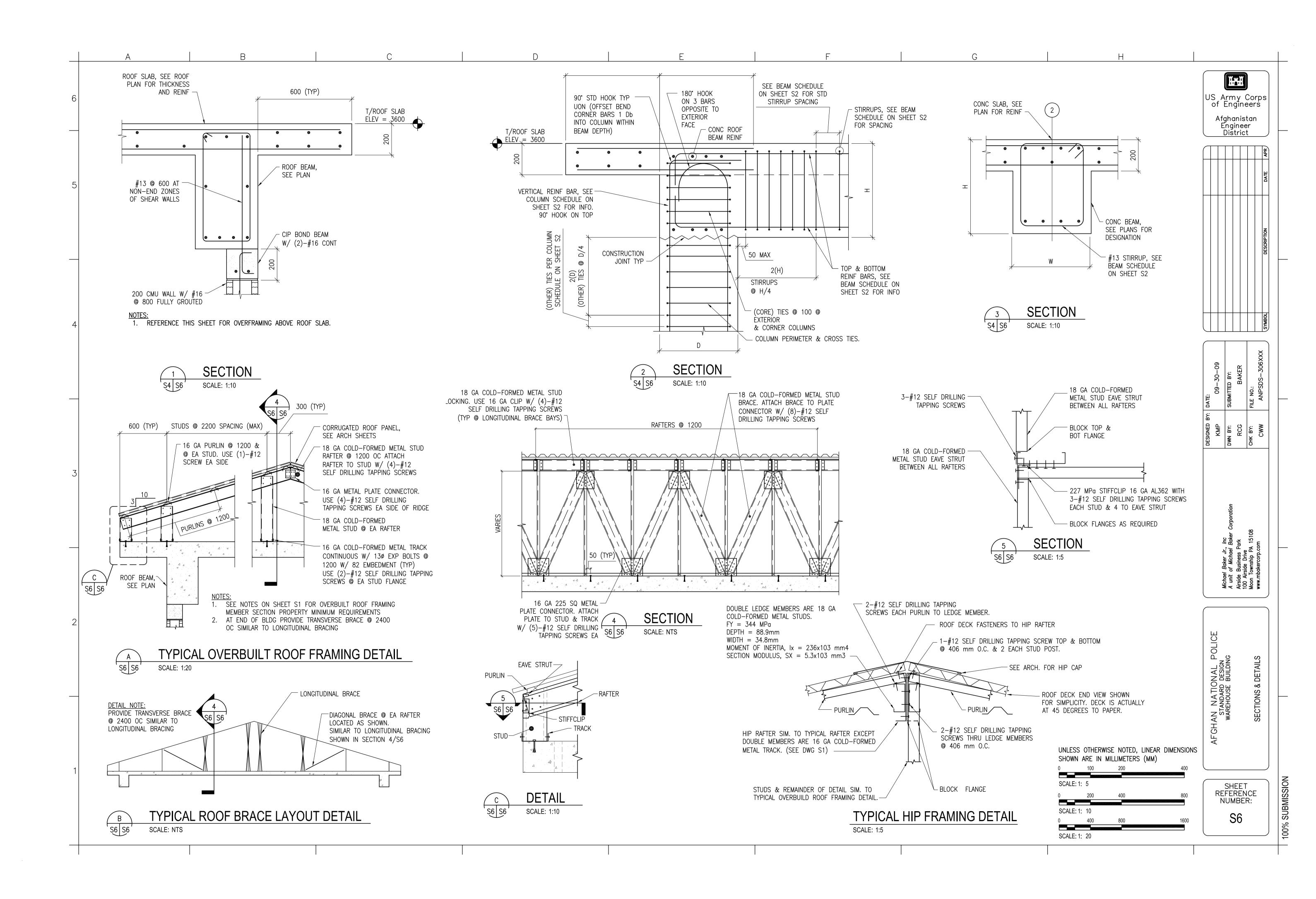
AFGHAN NATIONAL POLICE STANDARD DESIGN WAREHOUSE BUILDING FOUNDATION PLAN & ROOF

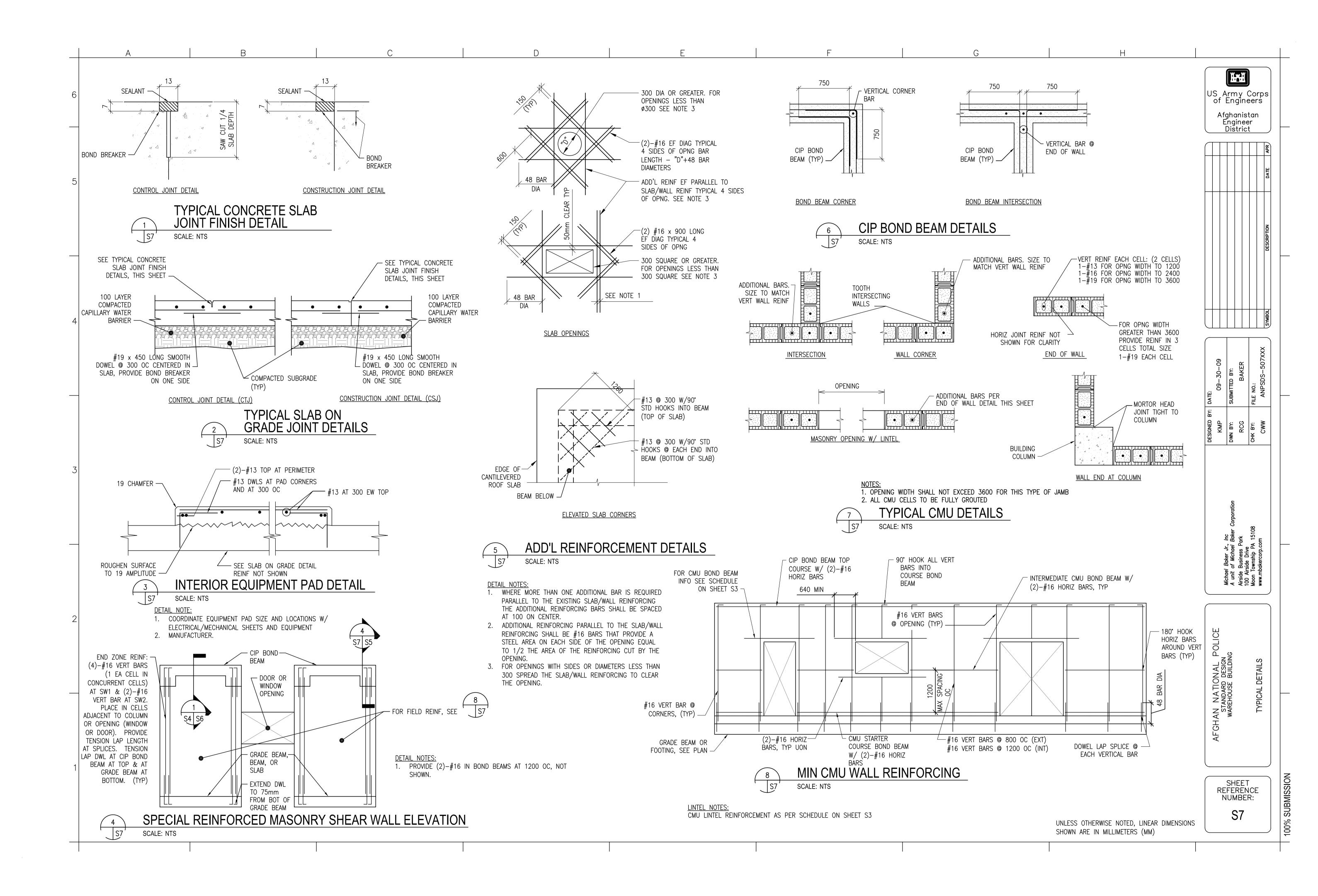
UNLESS OTHERWISE NOTED, LINEAR DIMENSIONS SHOWN ARE IN MILLIMETERS (MM)

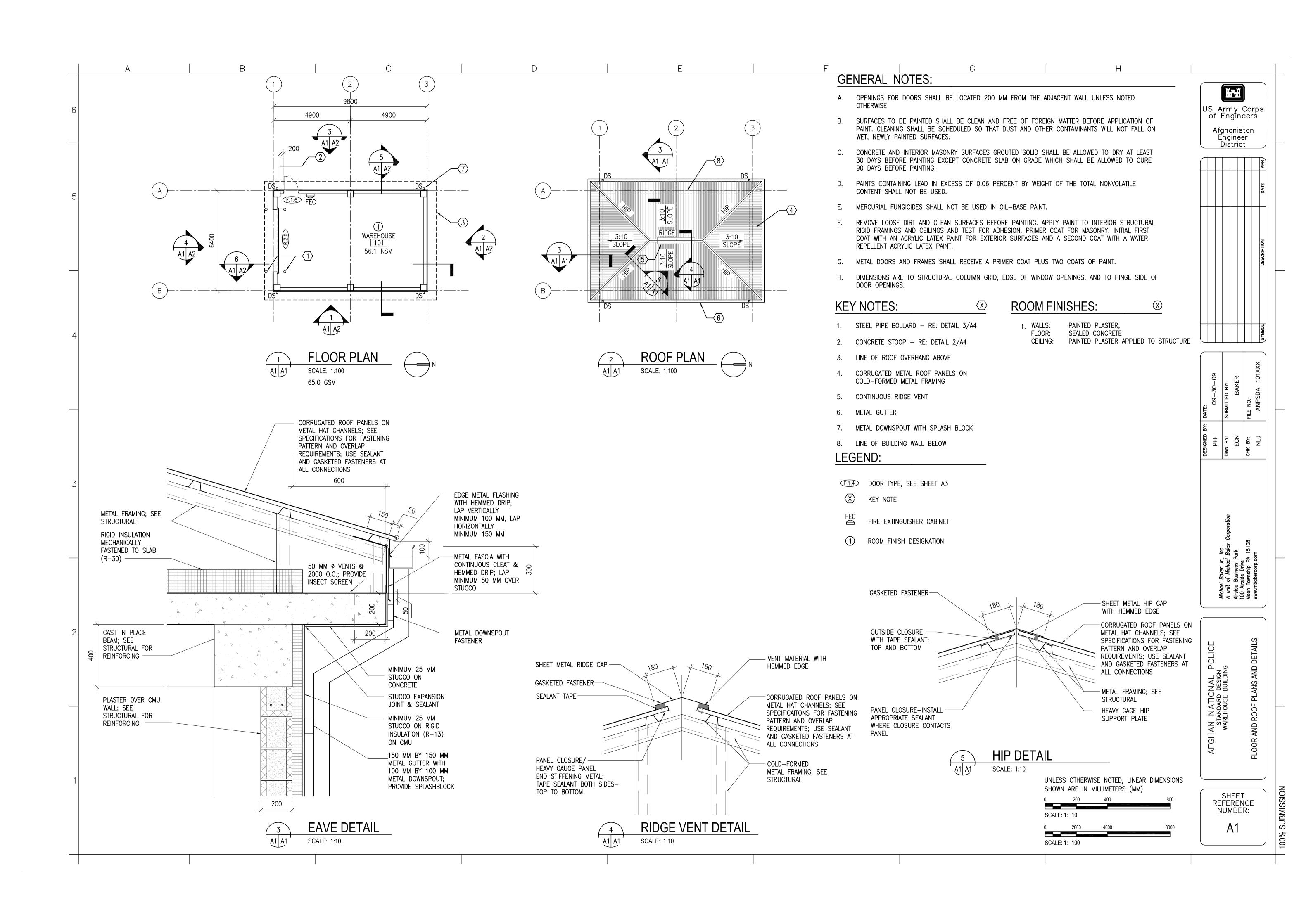
2000 4000 SCALE: 1: 100

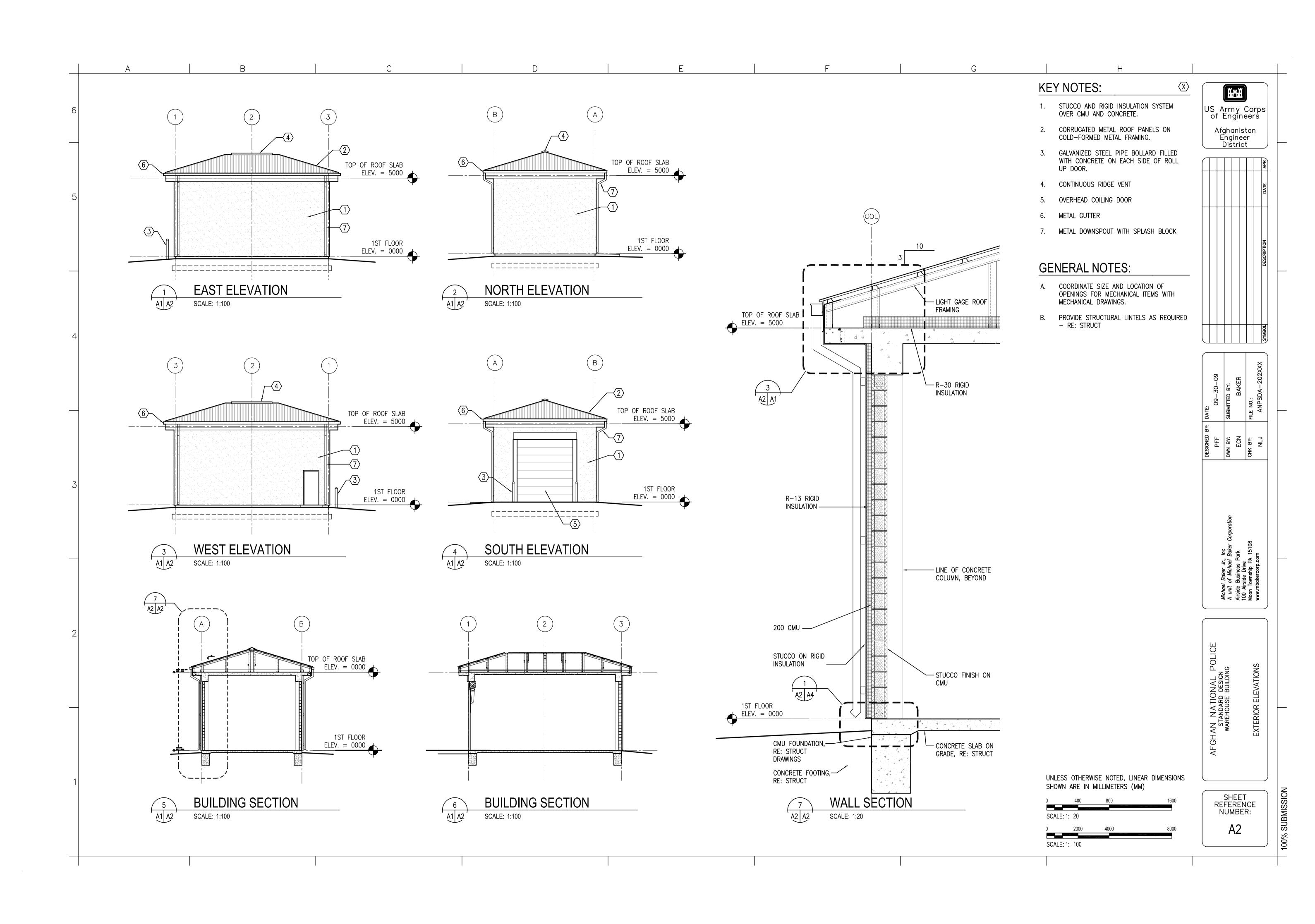
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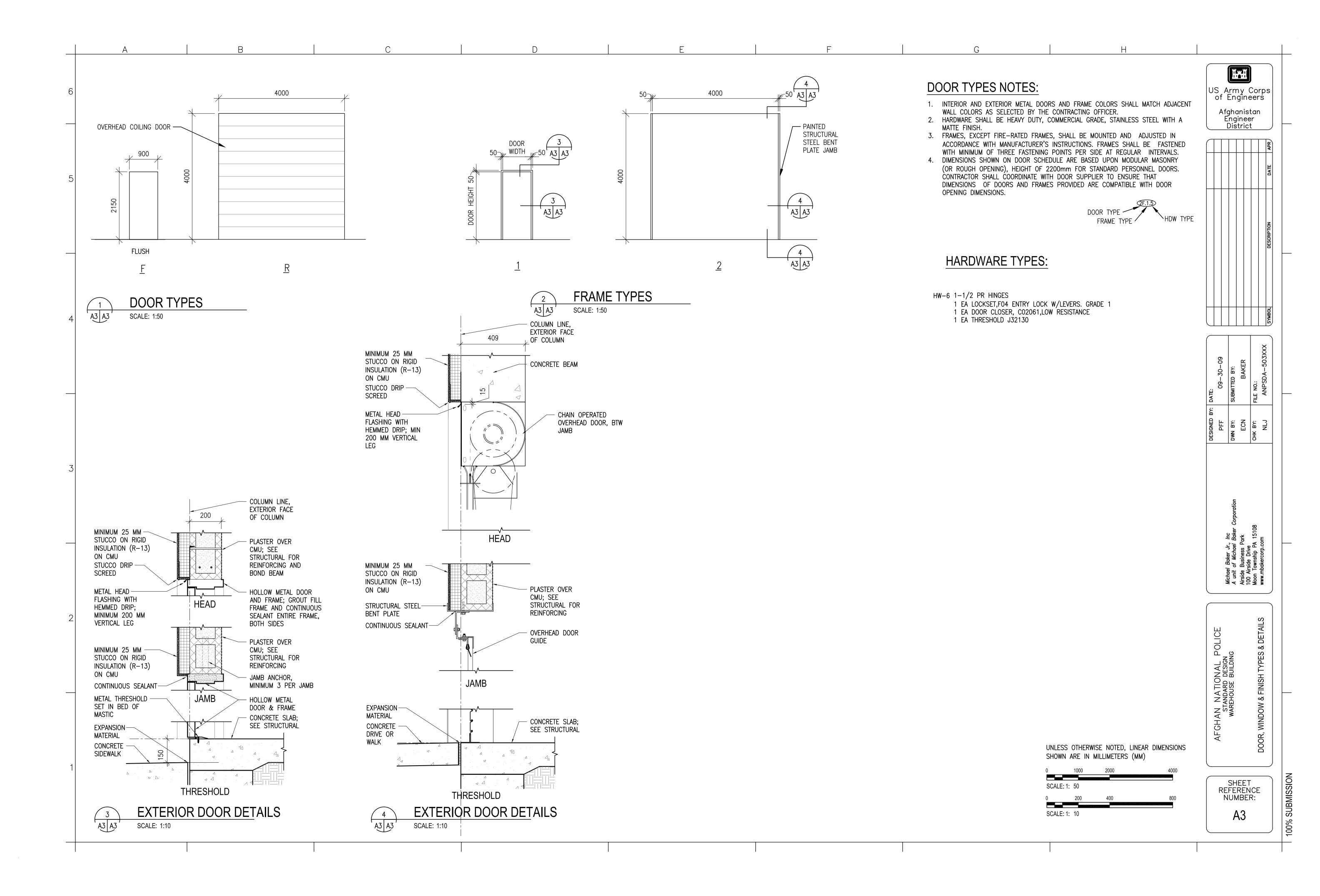


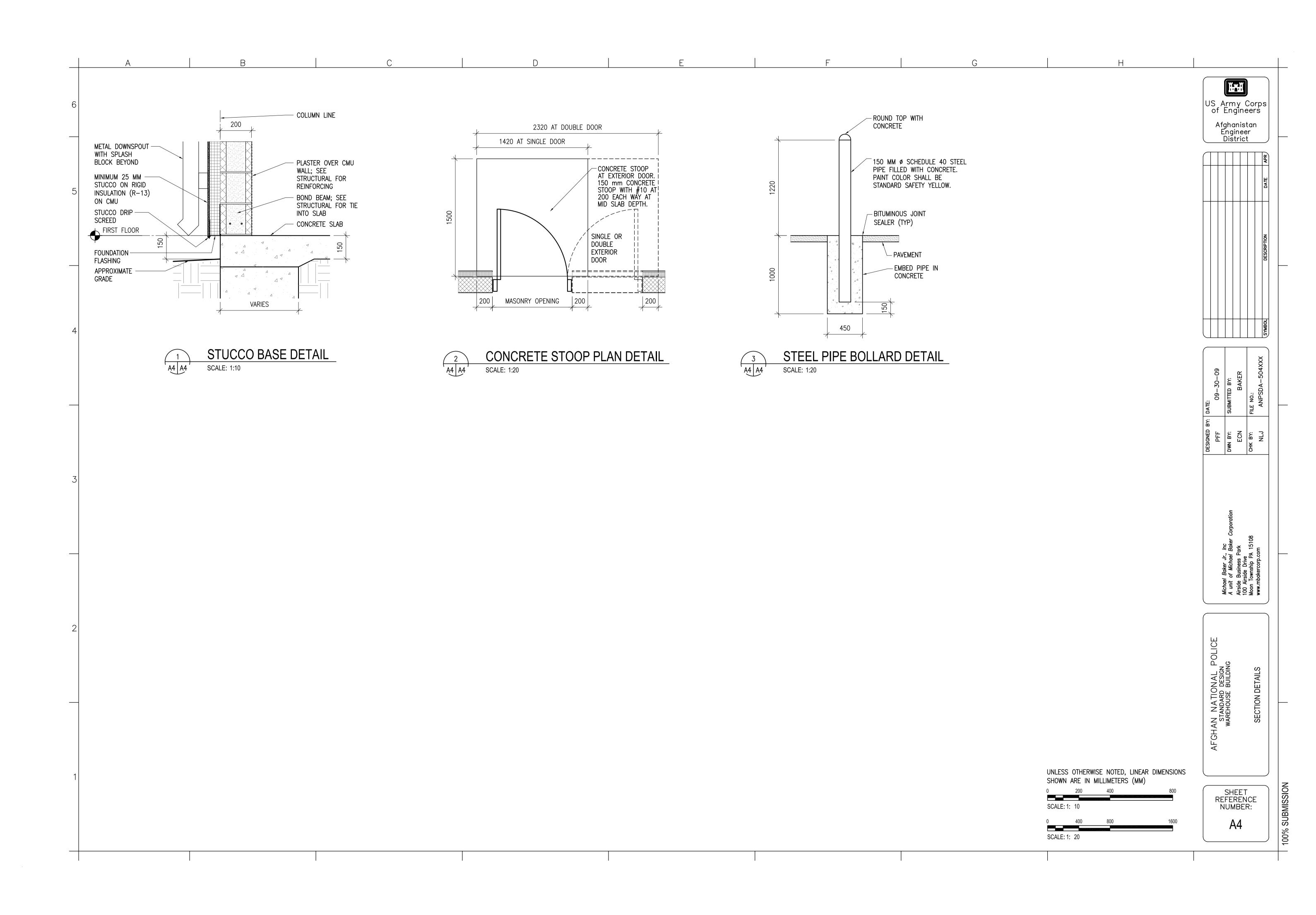




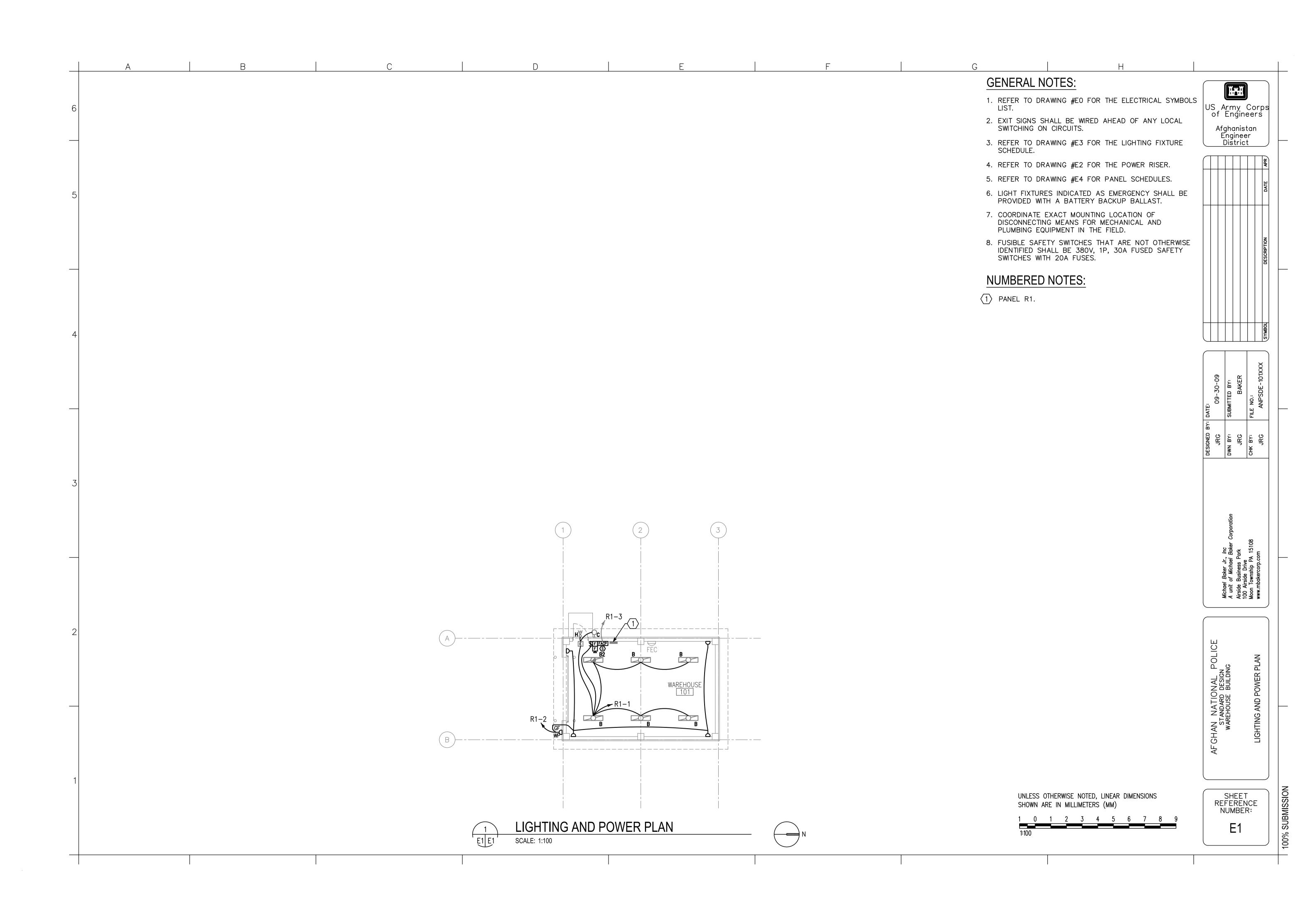


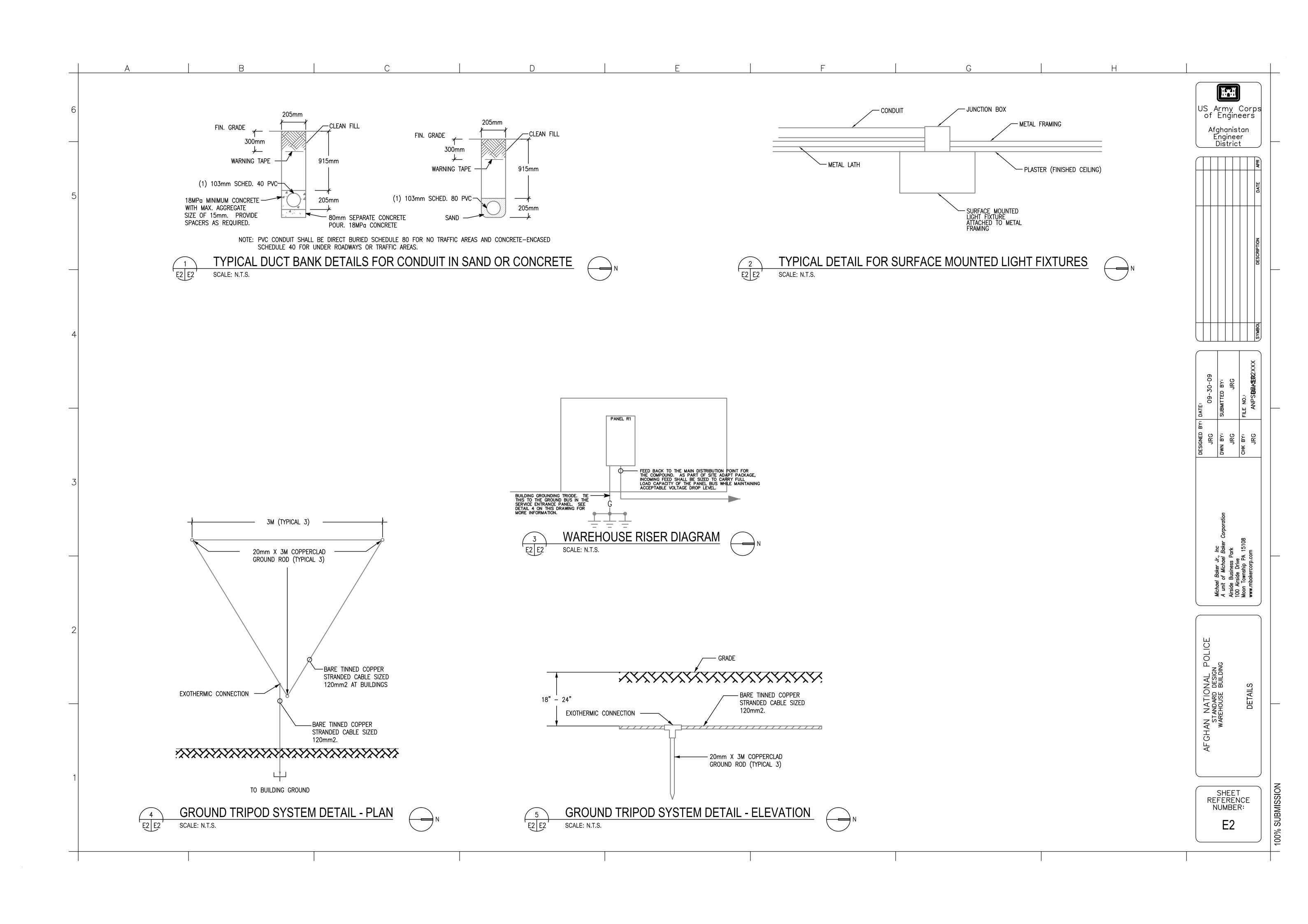














WET LOCATION WRAP AROUND SURFACE/PENDANT MOUNTED FLUORESCENT FIXTURE WITH PRISMATIC ACRYLIC LENS AND ELECTRONIC BALLAST.

FIXTURE MARK 'B2': SAME FIXTURE AS 'B' WITH EMERGENCY BALLAST.

FIXTURE MARK 'C'



INCANDESCENT ONE PIECE WITH APPROVED LENS, STABILIZED HIGH IMPACT POLY CARBONATE

FIXTURE MARK 'H'



REMOTE HEAD EXTERIOR LIGHT HEAD POWERED FROM EXIT SIGN BATTERY—12V DOUBLE HEAD CORROSION RESISTANT WITH UL34 WEATHERPROOF CONSTRUCTION

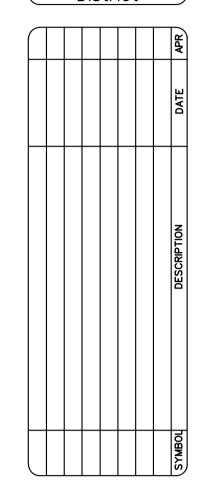
FIXTURE MARK 'E'



UNIVERSAL MOUNT ENGINEER GRADE THERMOPLASTIC HOUSING EXIT SIGN WITH LED LAMPS, RED LETTERS 6" IN HEIGHT WITH ARROWS AS INDICATED, WITH 12V CADMIUM BATTERY

		LIGHTING FIX	XTURE SC	HEDULE	
FIXTURE MARK	STYLE NUMBER AND TYPE	NUMBER AND TYPE OF LAMPS	VOLTAGE	MOUNTING	NOTES
В	WET LOCATION WRAP AROUND SURFACE/PENDANT MOUNTED FLUORESCENT FIXTURE WITH PRISMATIC ACRYLIC LENS AND ELECTRONIC BALLAST	(2) 32W 3500K	220V – 1ø 50HZ	PENDANT MOUNTED FROM SLOPED CEILINGS	FURNISHED WITH ELECTRONIC BALLAST, VIRGIN ACRYLIC WRAP AROUND LENS.
B2	SAME AS FIXTURE 'B' WITH EMERGENCY BALLAST	(2) 32W 3500K	220V – 1ø 50HZ	PENDANT MOUNTED FROM SLOPED CEILINGS	FURNISHED WITH ELECTRONIC BALLAST, VIRGIN ACRYLIC WRAP AROUND LENS. EMERGENCY BALLAST WITH SELF TEST SWITCH.
С	INCANDESCENT ONE PIECE W/ APPROVED LENS STABILIZED HIGH IMPACT POLY CARBONATE.	(1) A19 - 100W INCANDESCENT	220V – 1ø 50HZ	WALL MOUNTED ABOVE EXTERIOR DOORS	
Н	REMOTE HEAD EXTERIOR LIGHT HEAD POWERED FROM EXIT SIGN BATTERY— 12V DOUBLE HEAD CORROSION RESISTANT WITH UL34 WEATHERPROOF CONSTRUCTION	(2) 12W/12V HALOGEN LAMP	12V – 1ø 50HZ	EXTERIOR WALL MOUNTED AT TOP OF DOOR HEIGHT	
E	UNIVERSAL MOUNT ENGINEER GRADE THERMOPLASTIC HOUSING EXIT SIGN WITH LED LAMPS, RED LETTERS 6" IN HEIGHT WITH ARROWS AS INDICATED, WITH 12V CADMIUM BATTERY WITH REMOTE HEAD CAPABILITY	LED LAMPS	220V – 1ø 50HZ	UNIVERSAL MOUNTING	





DATE:	60-30-08	SUBMITTED BY:	BAKER	FILE NO.:	ANPSDE-603XXX
DESIGNED BY: DATE:	JRG	DWN BY:	JRG	CHK BY:	JRG
	Wishnel Baker Ir Inc	Michael Dukel Off, IIIC A unit of Michael Baker Corporation		Moon Township PA 15108	

AFGHAN NATIONAL POLICE
STANDARD DESIGN
WAREHOUSE BUILDING
LIGHT FIXTURE SCHEDULE

SHEET REFERENCE NUMBER:

BER:

 PANELBOARD
 R1
 SURFACE
 MOUNTED
 ASYM. A.I.C. MIN.

 _____AMP. MAIN LUGS (OR)
 100
 AMP. MAIN BREAKER W/
 100
 AMP. TRIP

 CIRCUIT BREAKER TYPE
 380/220
 VOLTS
 3
 PHASE
 4
 WIRE
 50
 HZ
 100
 AMP. BUS
 LOAD-V.A. LOAD-V.A. LOAD SERVED LOAD SERVED AØ BØ CØ AØ BØ CØ Ø.6 Ø.6 1 20 1 4.0 4.0 20 LIGHTING - 101 RECEPTACLES - 101 3 20 1 4.0 4.0 20 1 20 4 Ø**.**5 F. A. C. P. SPARE 5 20 1 SPARE 1 20 6 SPARE 7 20 1 SPARE 1 20 8 SPARE 9 20 1 SPARE SPARE 1 20 10 11 20 1 1 20 12 SPARE SPARE 0.6 0.5 0.0 0.6 0.0 0.0 TOTAL CONN. LOAD PER PHASE (KVA): AØ 1.2 BØ 0.5 CØ 0.0 TOTAL CONN. LOAD 1.7 KVA. 70 % DEMAND = ESTIMATED DEMAND LOAD 1.2 SUPPLIED FROM MAIN SWITCHGEAR DISTRIBUTION

* MAIN BREAKER SHALL BE 3P EARTH GROUND TYPE

US Army Corps of Engineers Afghanistan Engineer District

				APR
				DATE
				DESCRIPTION
				SYMBOL

ANPSDE-(JRG	www.mbakercorp.com
FILE NO.:	CHK BY:	Moon Township PA 15108
BAK	JRG	Airside Business Park 100 Airside Drive
SUBMITTED BY	DWN BY:	A unit of Michael Baker Corporation
09-30-	JRG	Michael Raker Ir Inc
DATE:	DESIGNED BY: DATE:	

AFGHAN NATIONAL POLICE
STANDARD DESIGN
WAREHOUSE BUILDING
PANEL SCHEDULES AND RISER DIAGRAM

SHEET REFERENCE NUMBER:

јмвек: **Е4**